

118, 120, 122 = optional

Figure 1

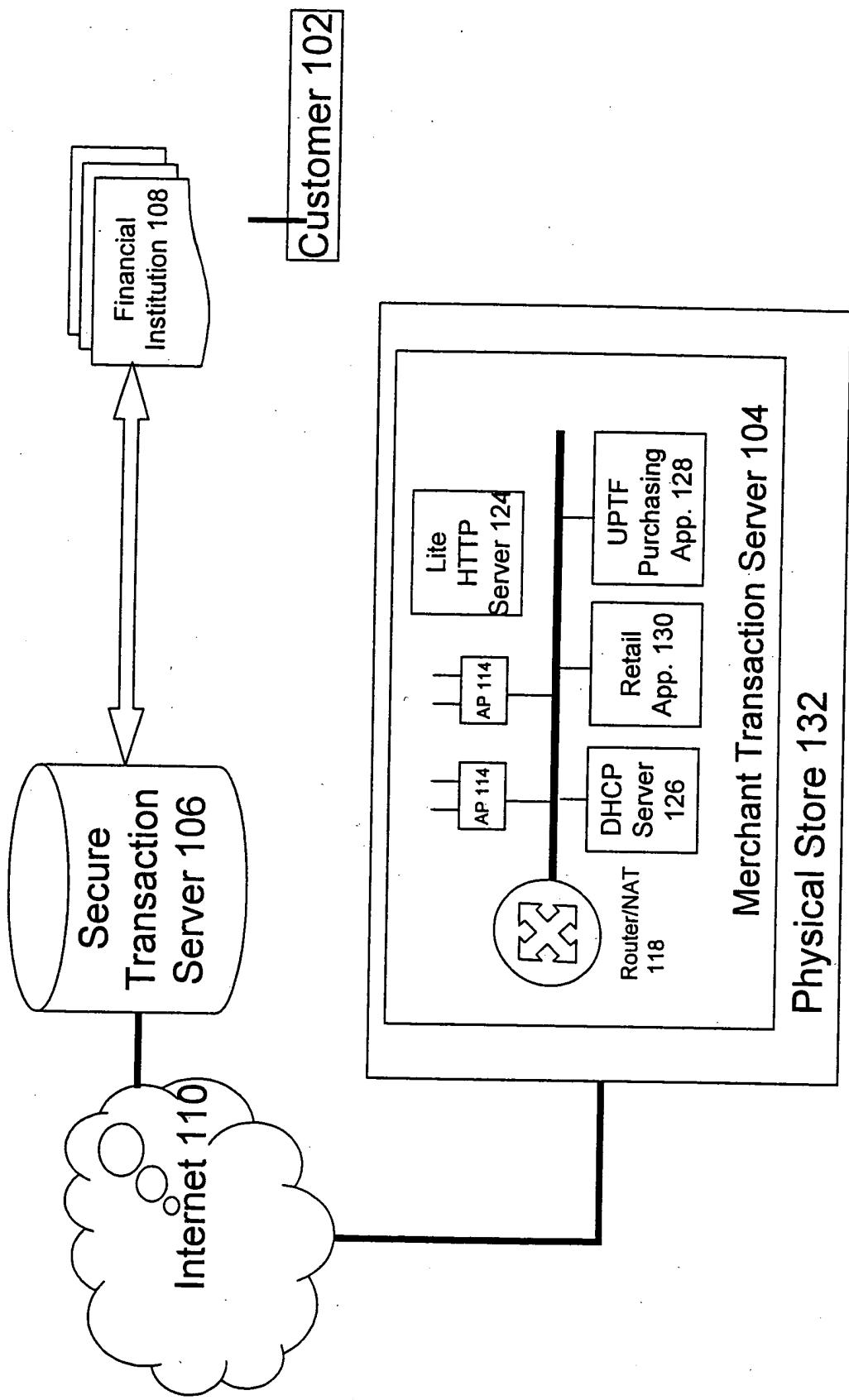


Figure 2

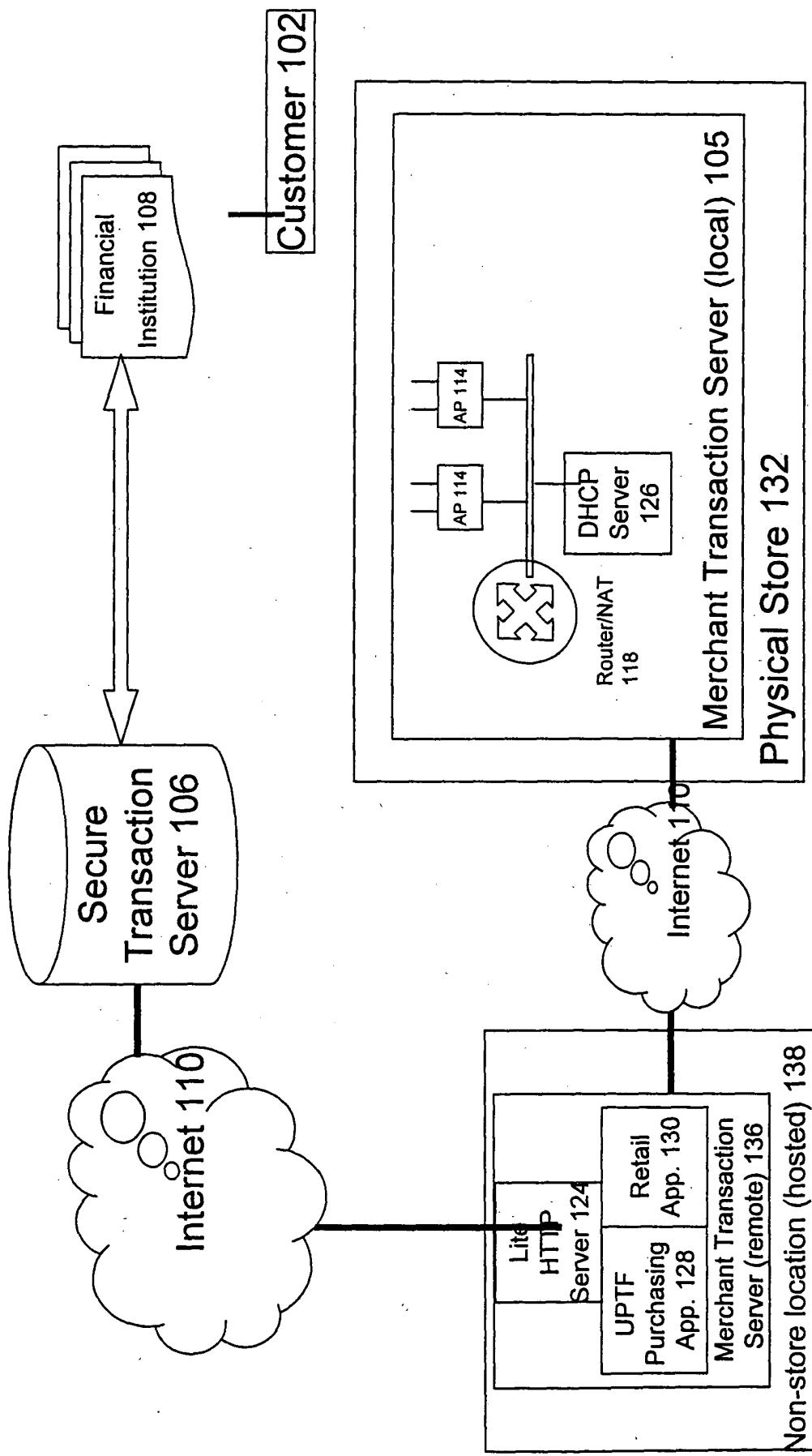


Figure 3

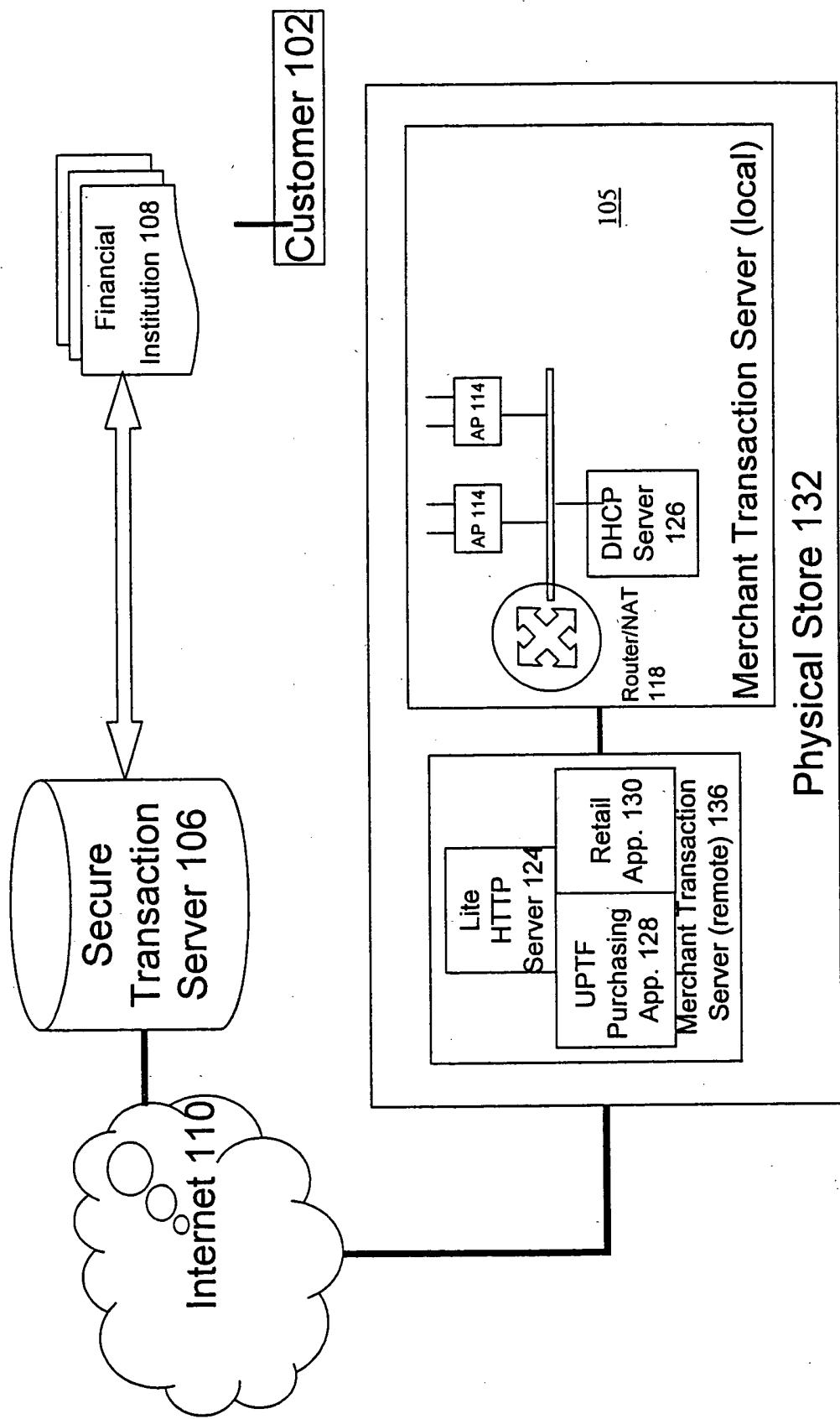


Figure 4

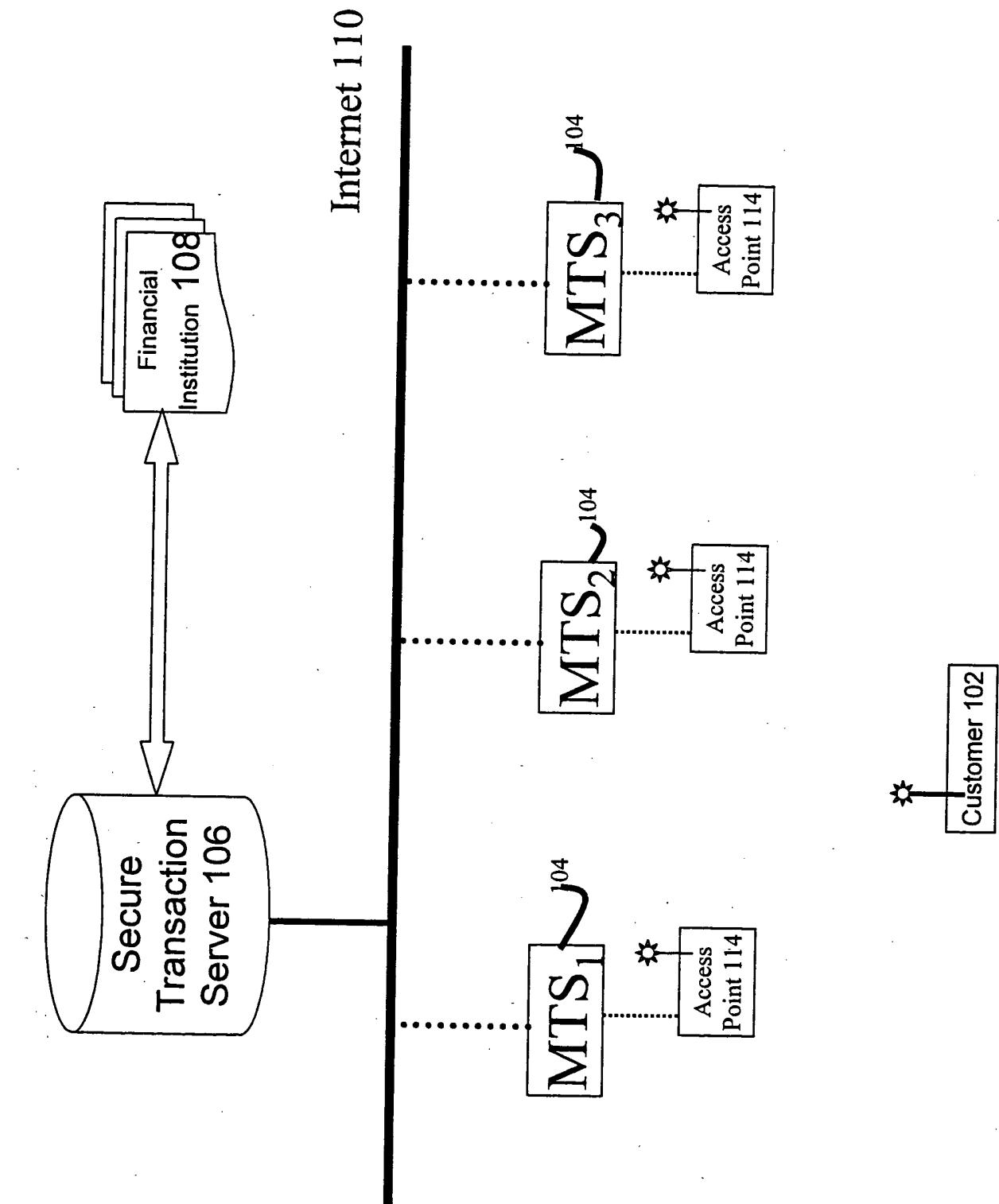


Figure 5

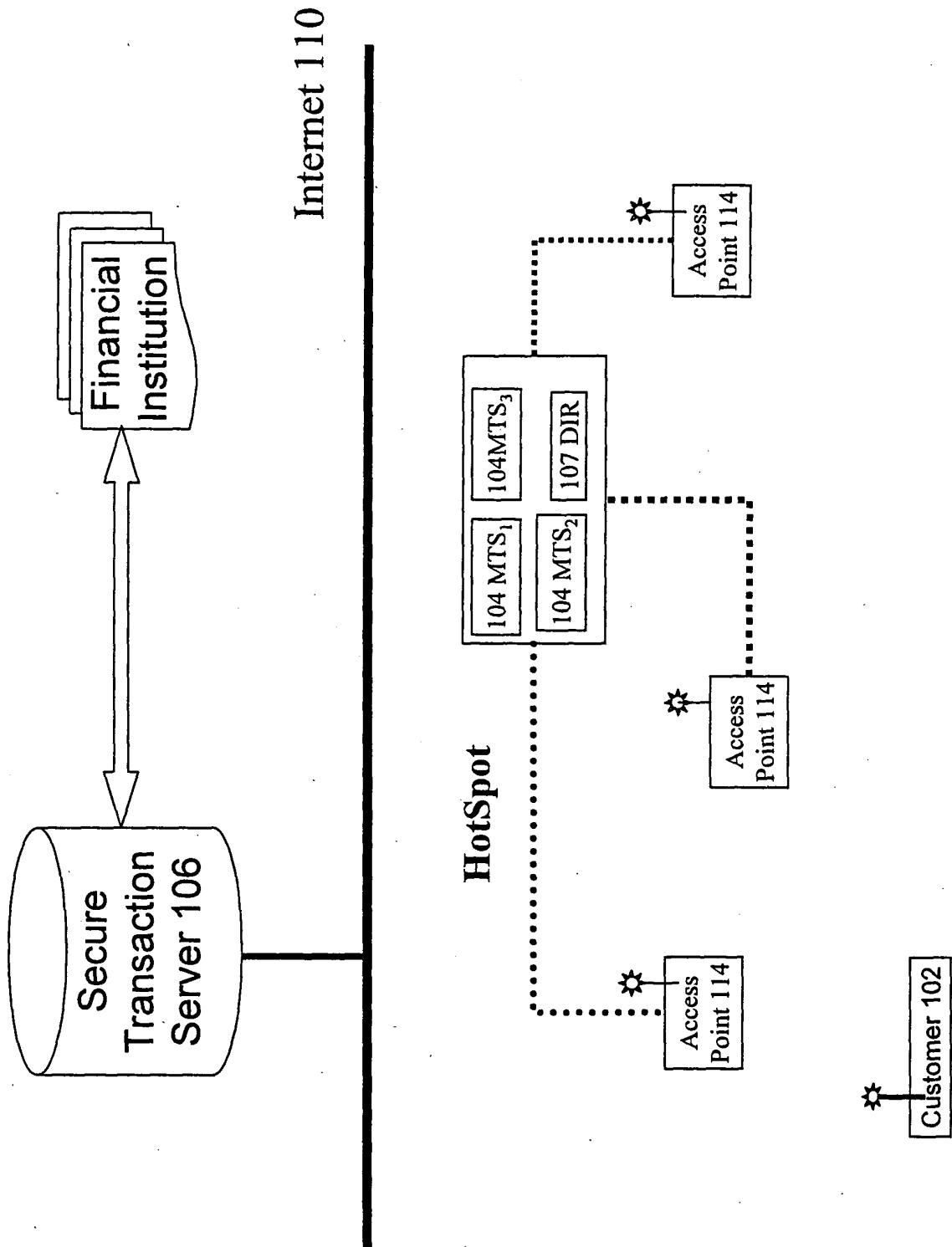


Figure 6

200

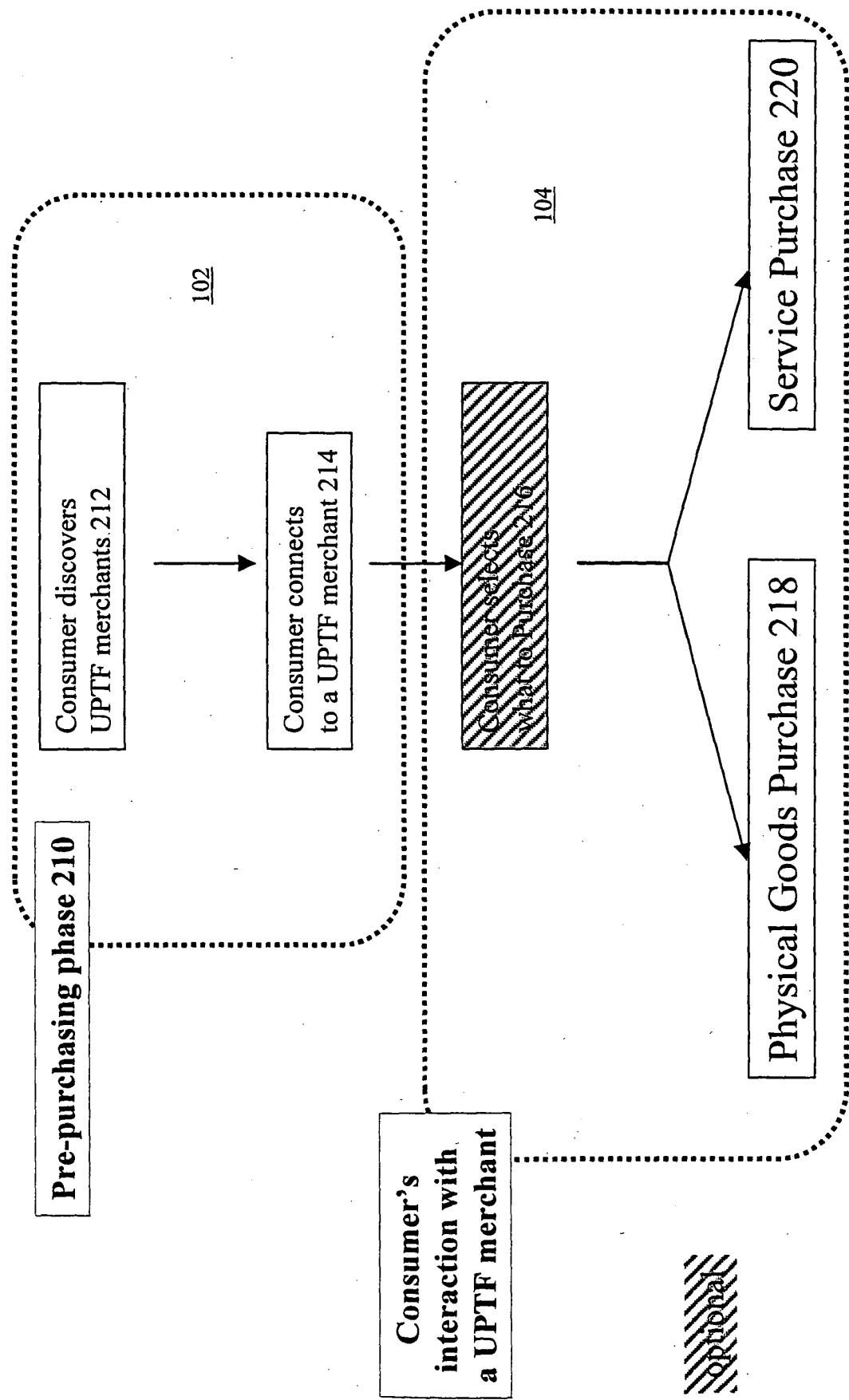


Figure 7

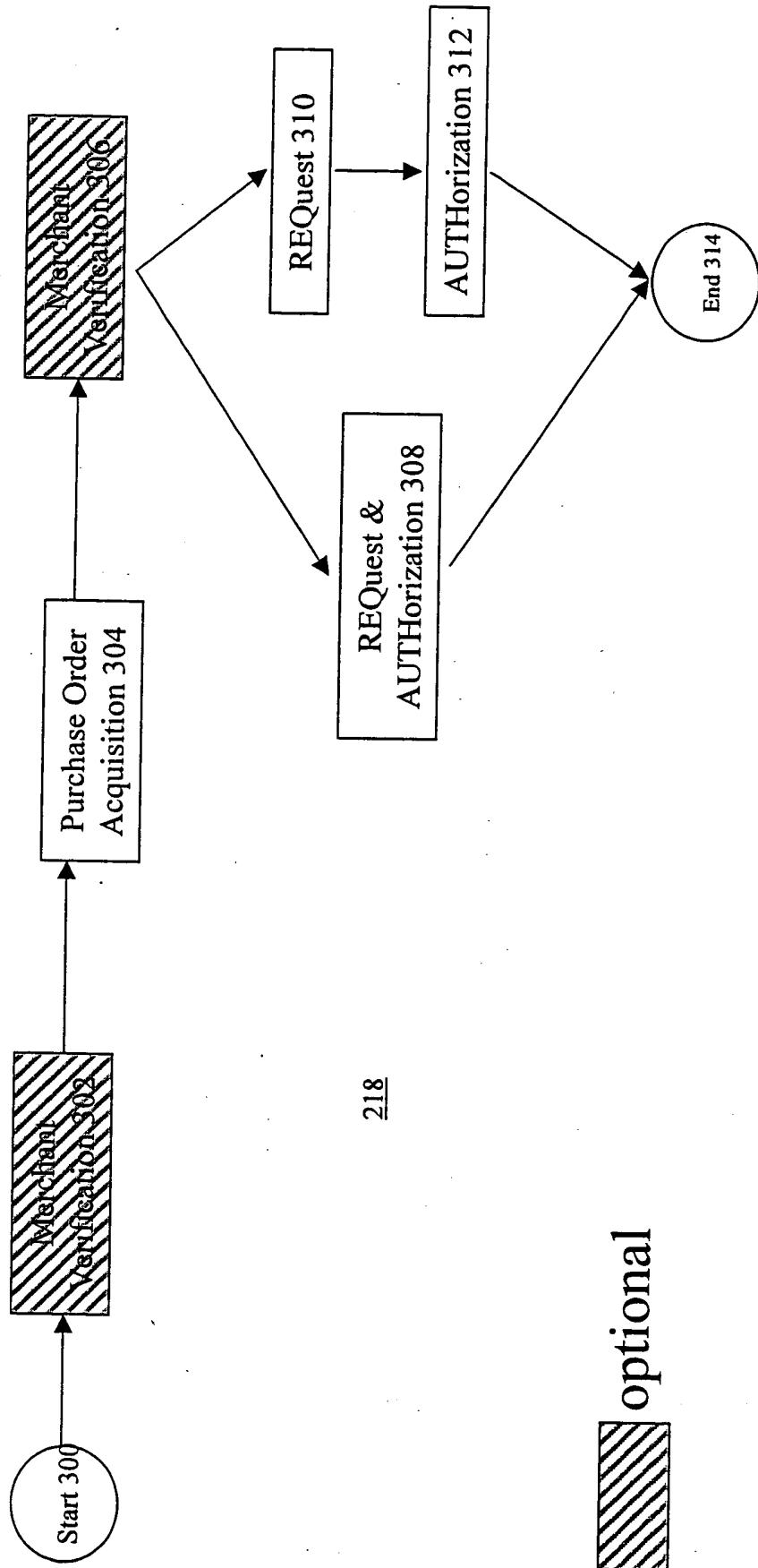


Figure 8

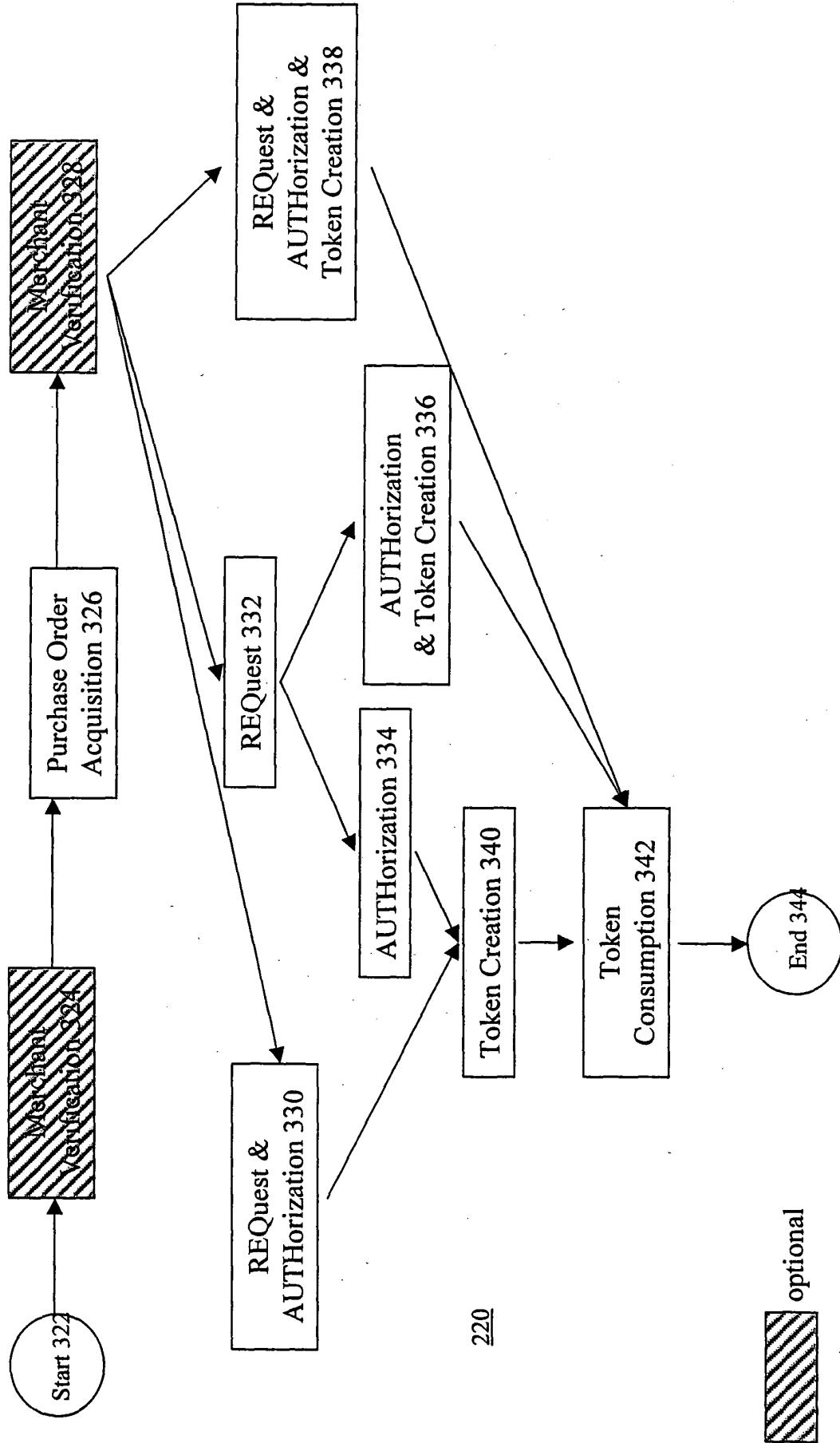


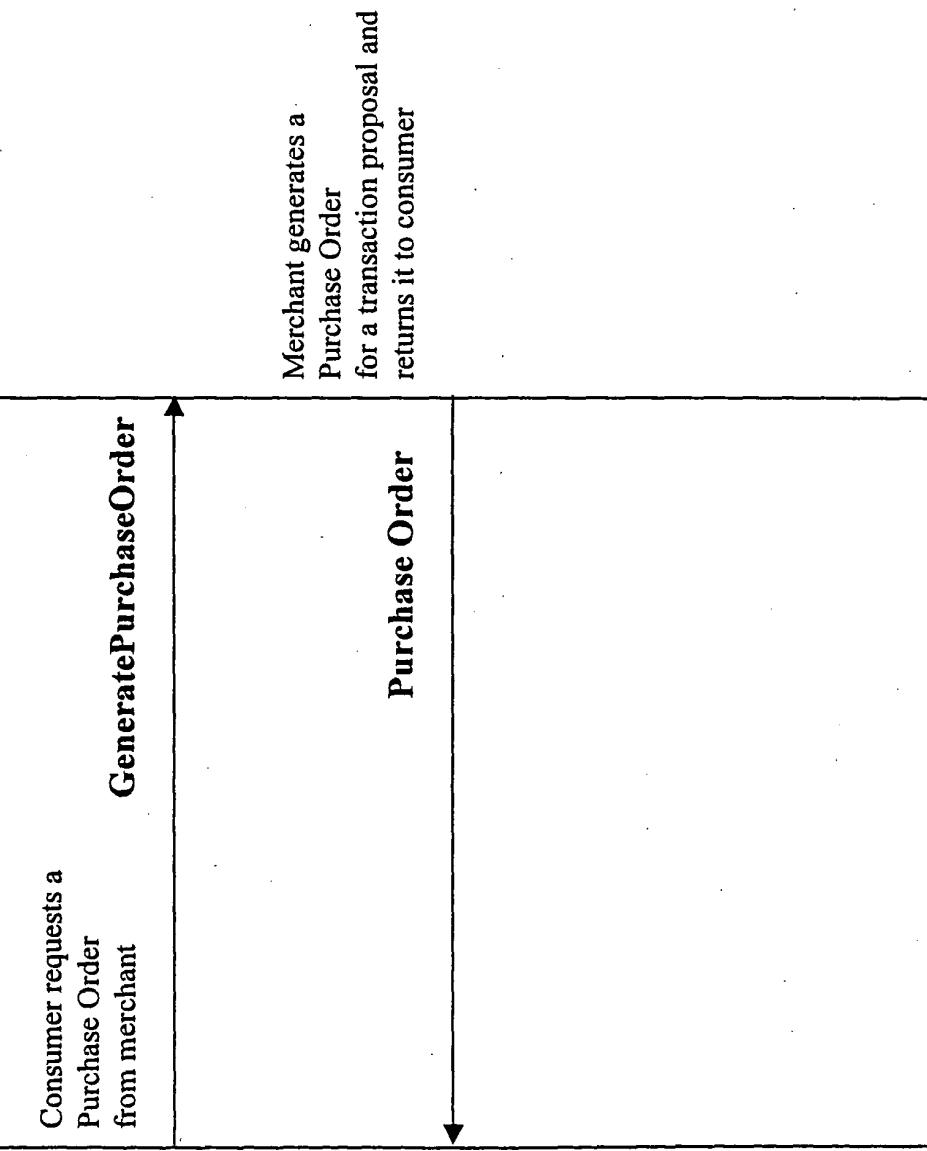
Figure 9

Consumer 102

Merchant 104

STS 106

350



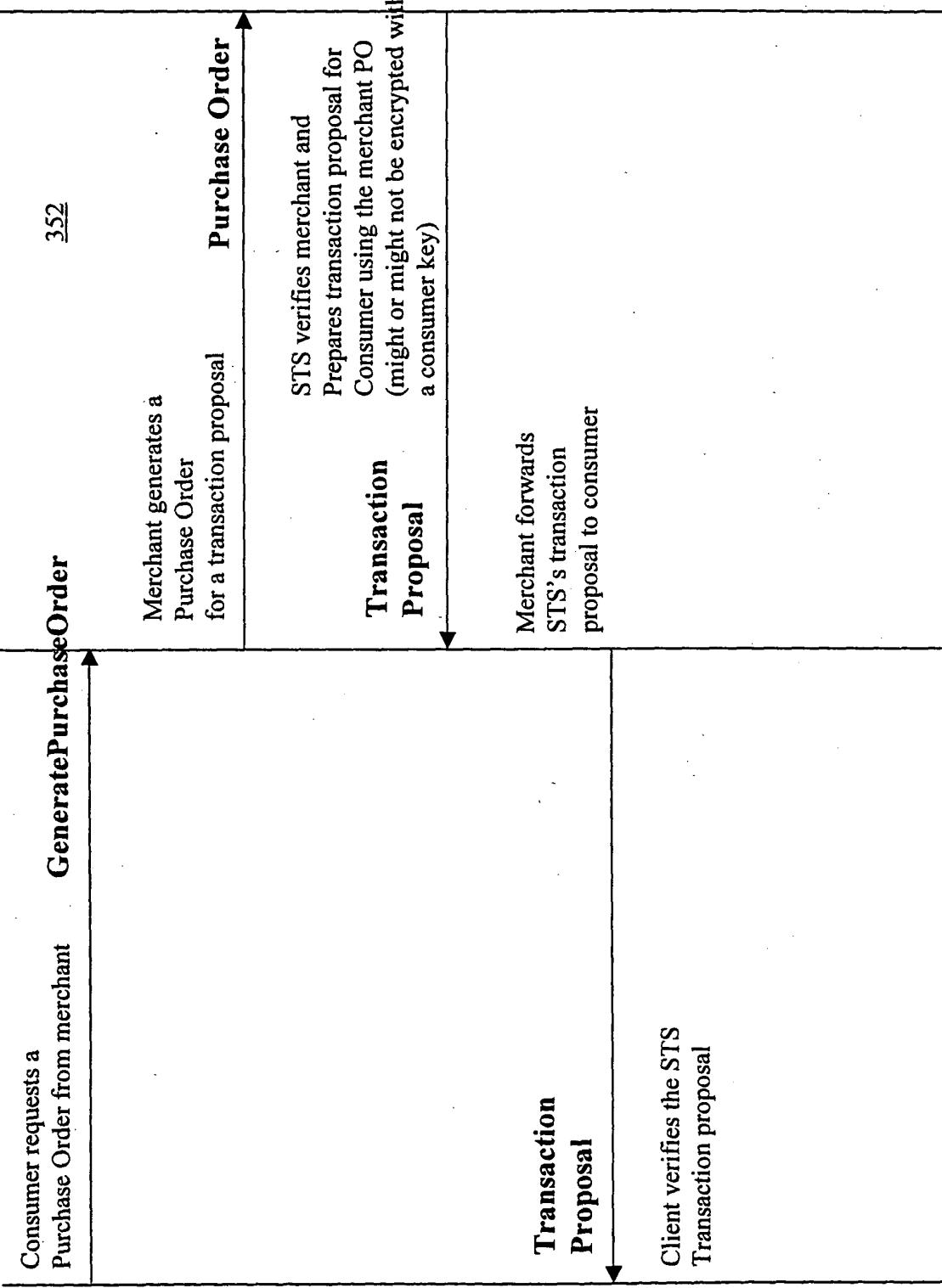
Purchase Order Acquisition -
Direct Purchase Order Exchange

Figure 10

Consumer 102

Merchant 104

STS 106



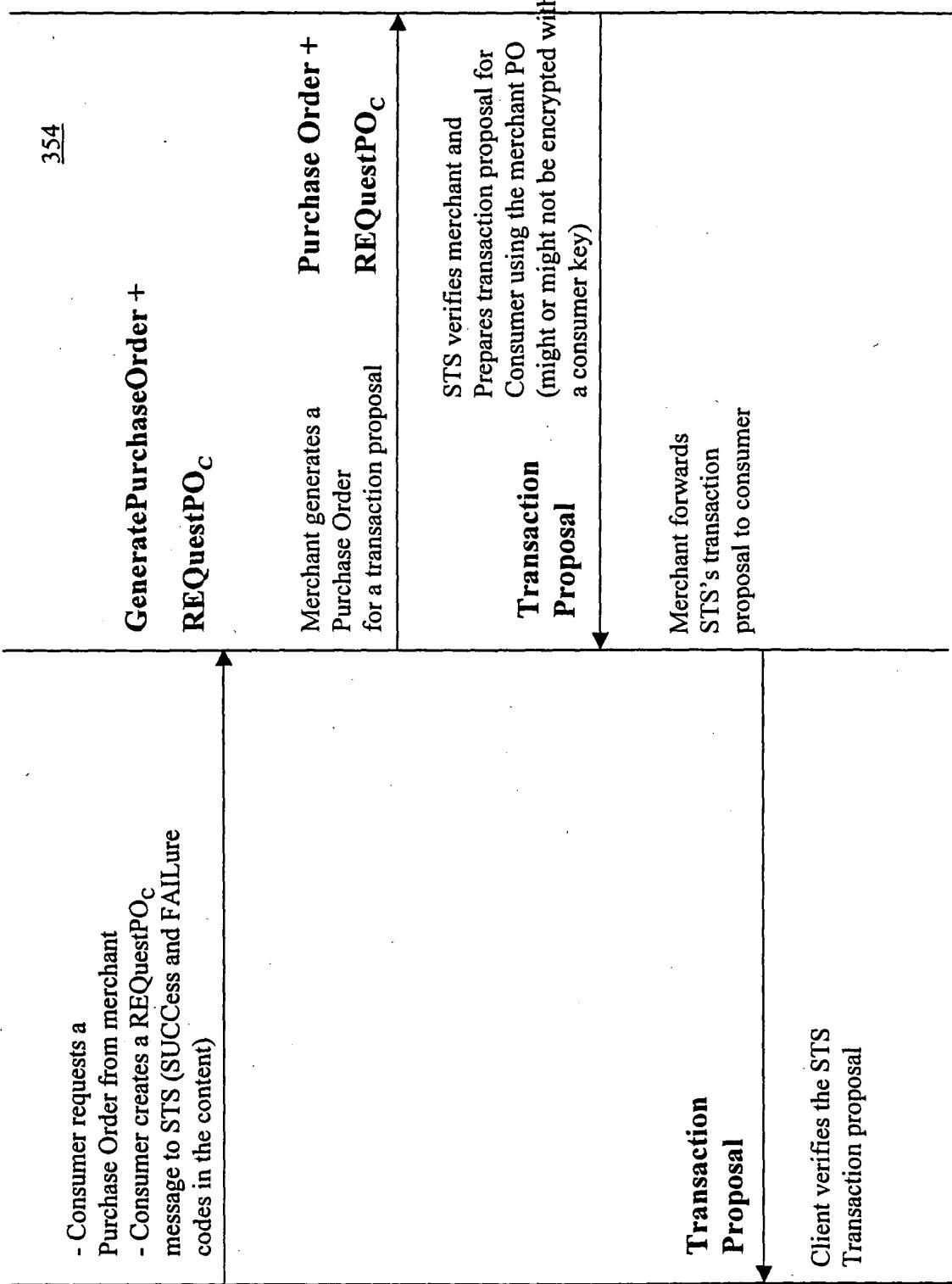
Purchase Order Acquisition – Purchase Order Request

Figure 11

Consumer 102

Merchant 104

STS 106



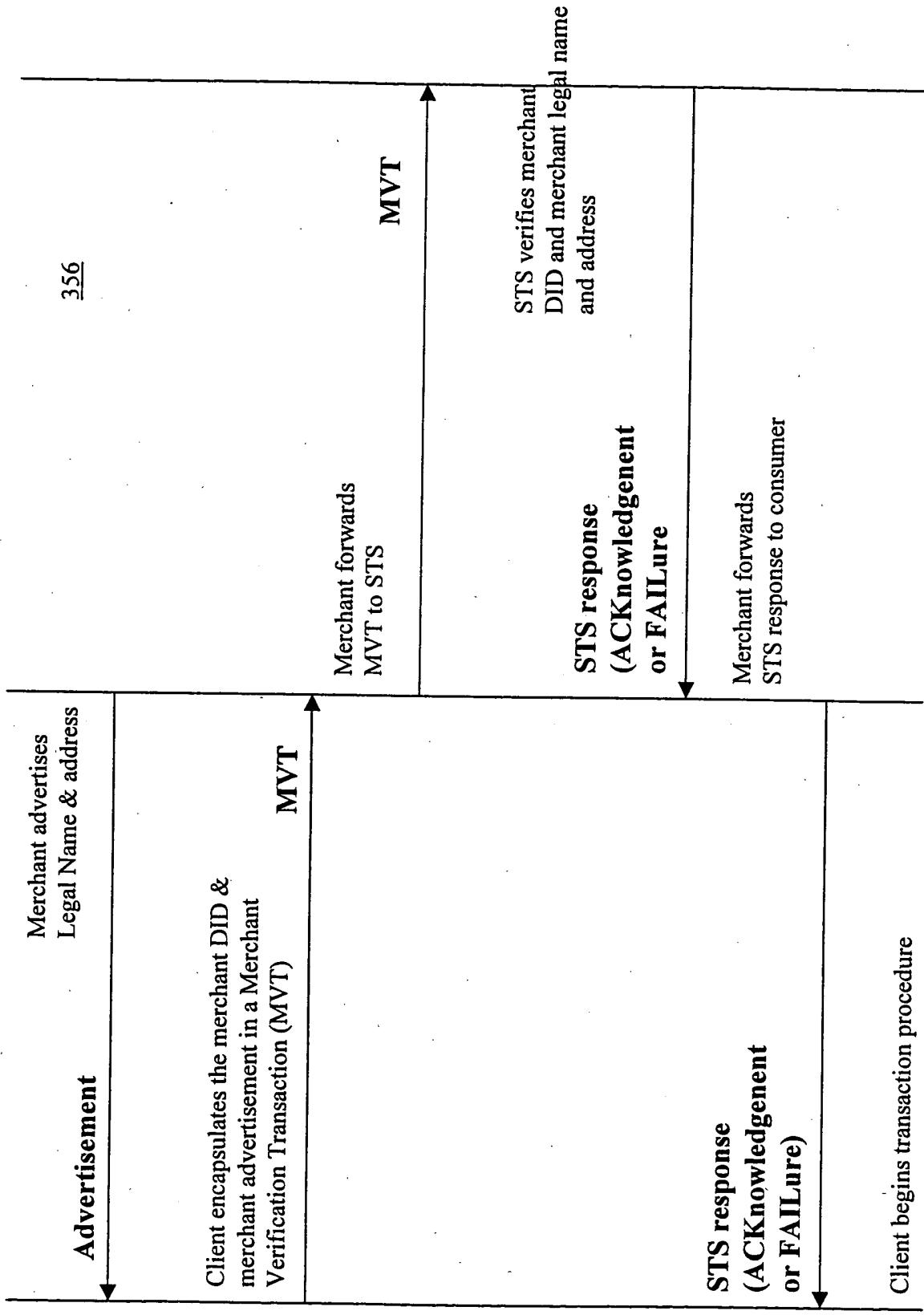
Purchase Order Acquisition –
Purchase Order Request from STS

Figure 12

Consumer 102

Merchant 104

STS 106



Merchant Verification

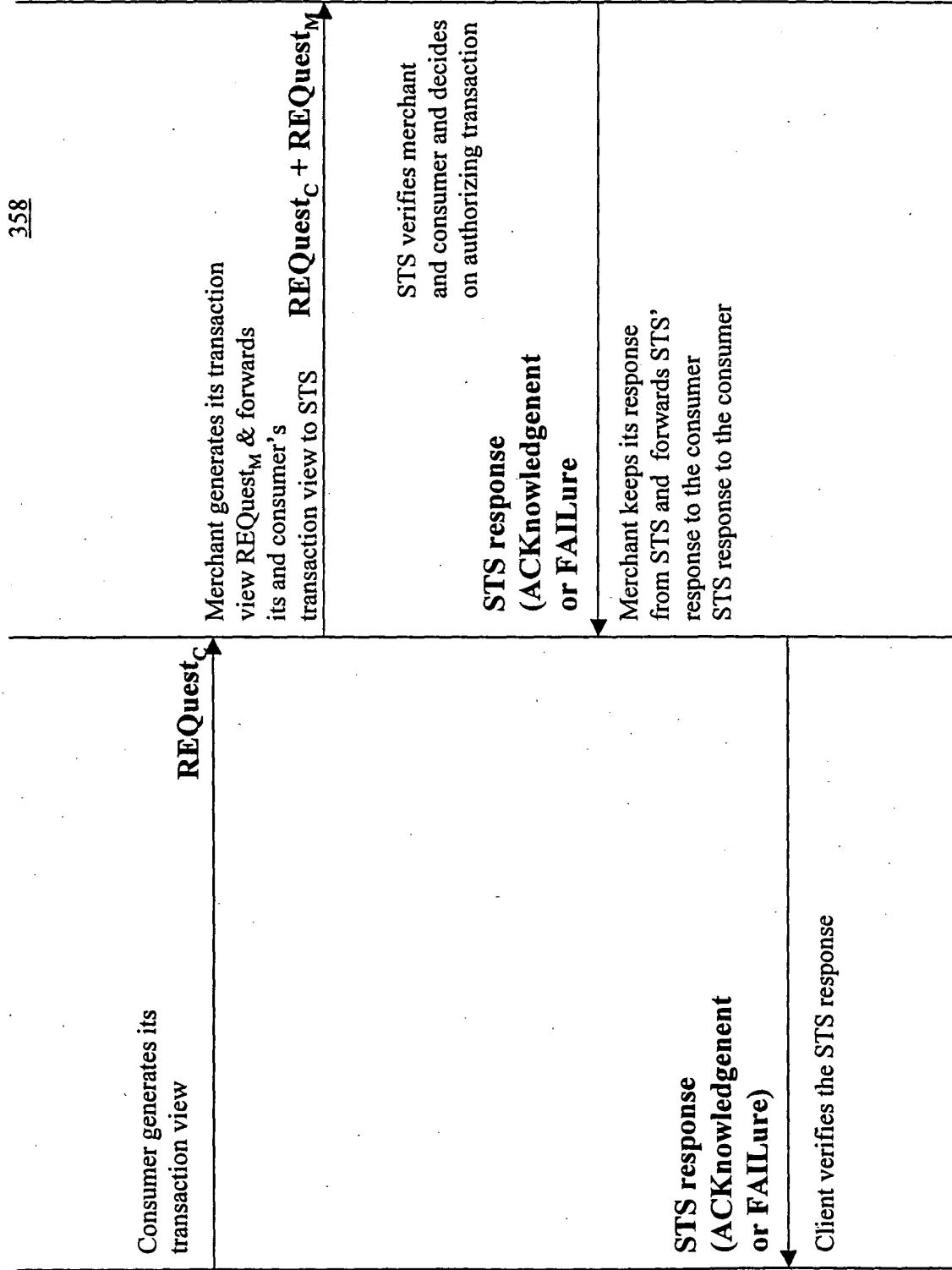
Figure 13

Consumer 102

Merchant 104

STS 106

358



**REQuest
(preAUTHorization)**

Figure 14

STS 106

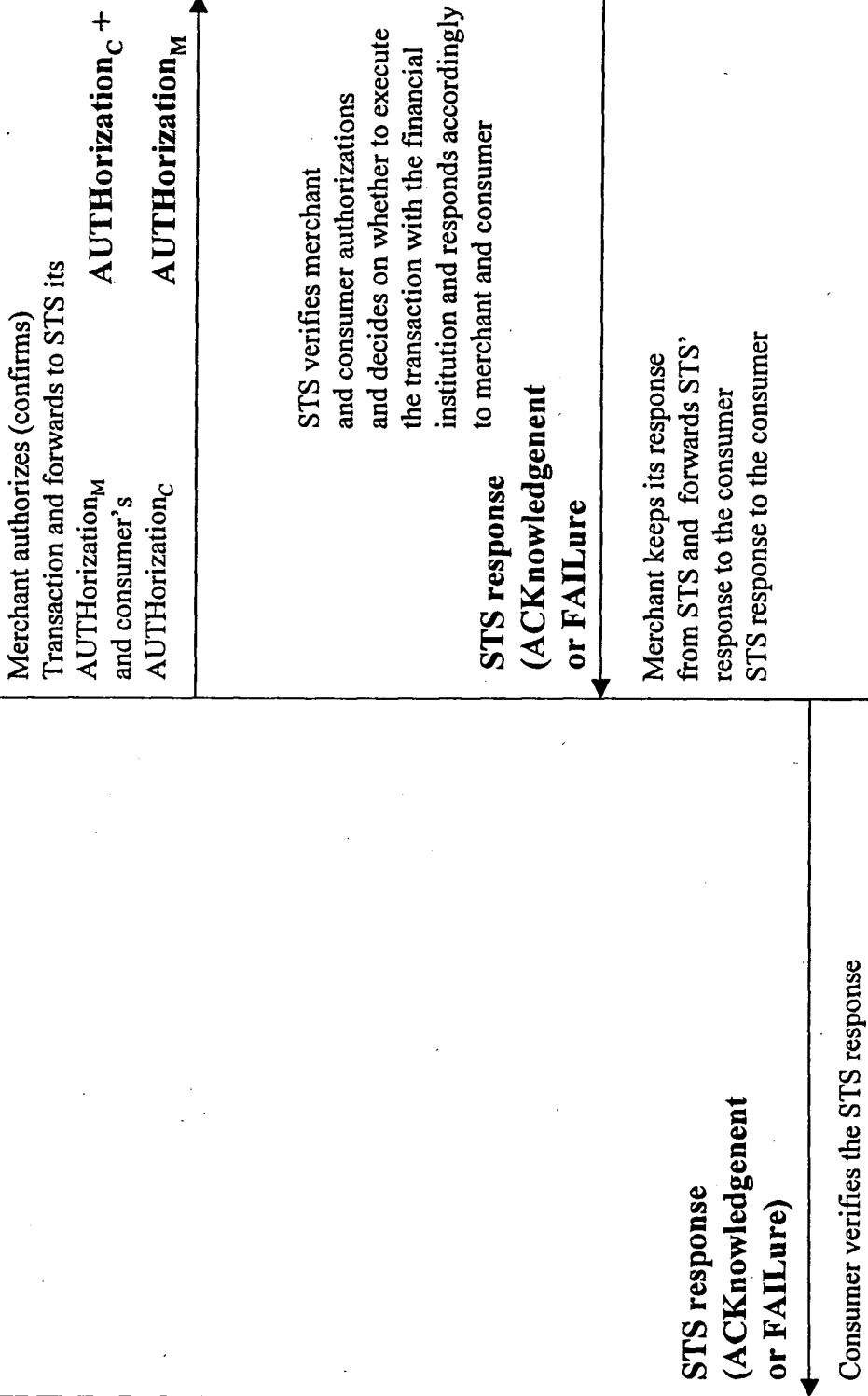
Merchant 104

Consumer 102

Consumer authorizes
(confirms) transaction

AUTHorization_C

360



AUTHorization (includes payment)

Figure 15

STS 106

362

Merchant 104

Consumer 102

Consumer generates its
transaction view

REQuestandAUTHorization_C

Merchant generates its transaction
view **REQuestandAUTHorization_M**
& forwards its and consumer's
transaction view to STS

REQuestandAUTHorization_C +
REQuestandAUTHorization_M

STS verifies merchant
and consumer REQuestandAUTHorizations
and decides on whether to execute
(no subsequent AUTHorization
is necessary) the transaction
with the financial institution
and responds accordingly
to merchant and consumer

STS response
(ACKnowledgement
or FAILure)

Merchant keeps its response
from STS and forwards STS'
response to the consumer
STS response to the consumer

STS response
(ACKnowledgement
or FAILure_)

Client verifies the STS response

Single step
REQuest and AUTHorization (includes payment)

Figure 16

Consumer 102

Token

Consumer authorizes
(confirms) transaction

Consumer may generate at this time
a token certificate (encrypt the

AUTHorization_C

token for the token's timestamp)

Merchant 104

Merchant

Merchant generates service token with timestamp

364

STS 106

STS

AUTHorization_M

- Merchant authorizes (confirms)
Transaction and forwards to STS its

AUTHorization_M

and consumer's

AUTHorization_C

- Merchant requests from STS a
certificate for the service token

AUTHorization_C +
AUTHorization_M +
REQuestCERTificate

- STS verifies merchant
and consumer authorizations
and decides on whether to execute
the transaction with the financial
institution and responds accordingly
to merchant and consumer

- STS generates a certificate for the
service token (encrypted with consumer's
key), if transaction was approved

STS ACKnowledgement +
Token certificate

- Merchant keeps its response
from STS and forwards STS'
response to the consumer
STS response to the consumer
- Merchant stores token certificate

STS response
ACKnowledgement

Consumer verifies the STS response

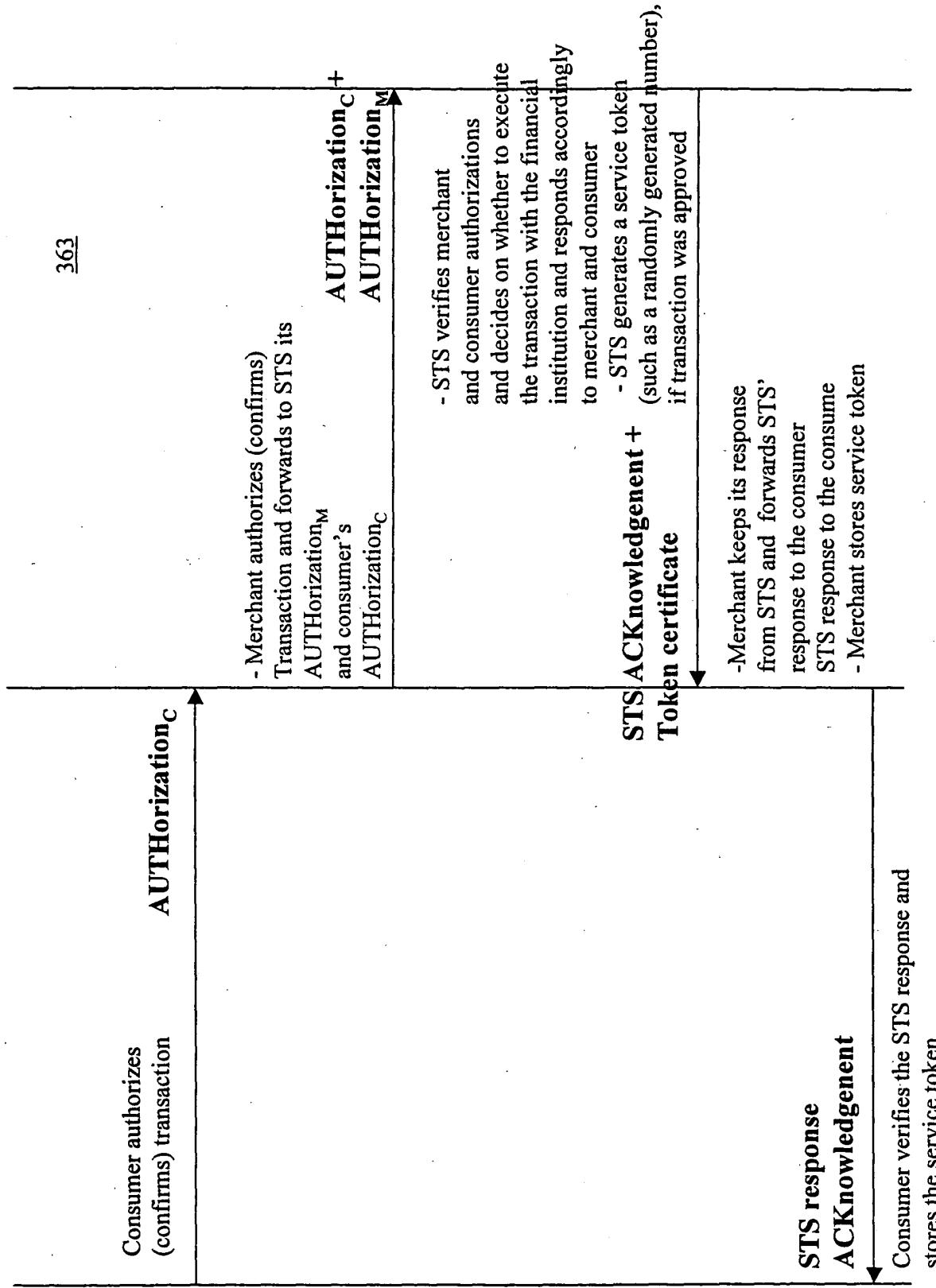
Token Creation and AUTHorization

Figure 17

Consumer 102

Merchant 104

STS 106



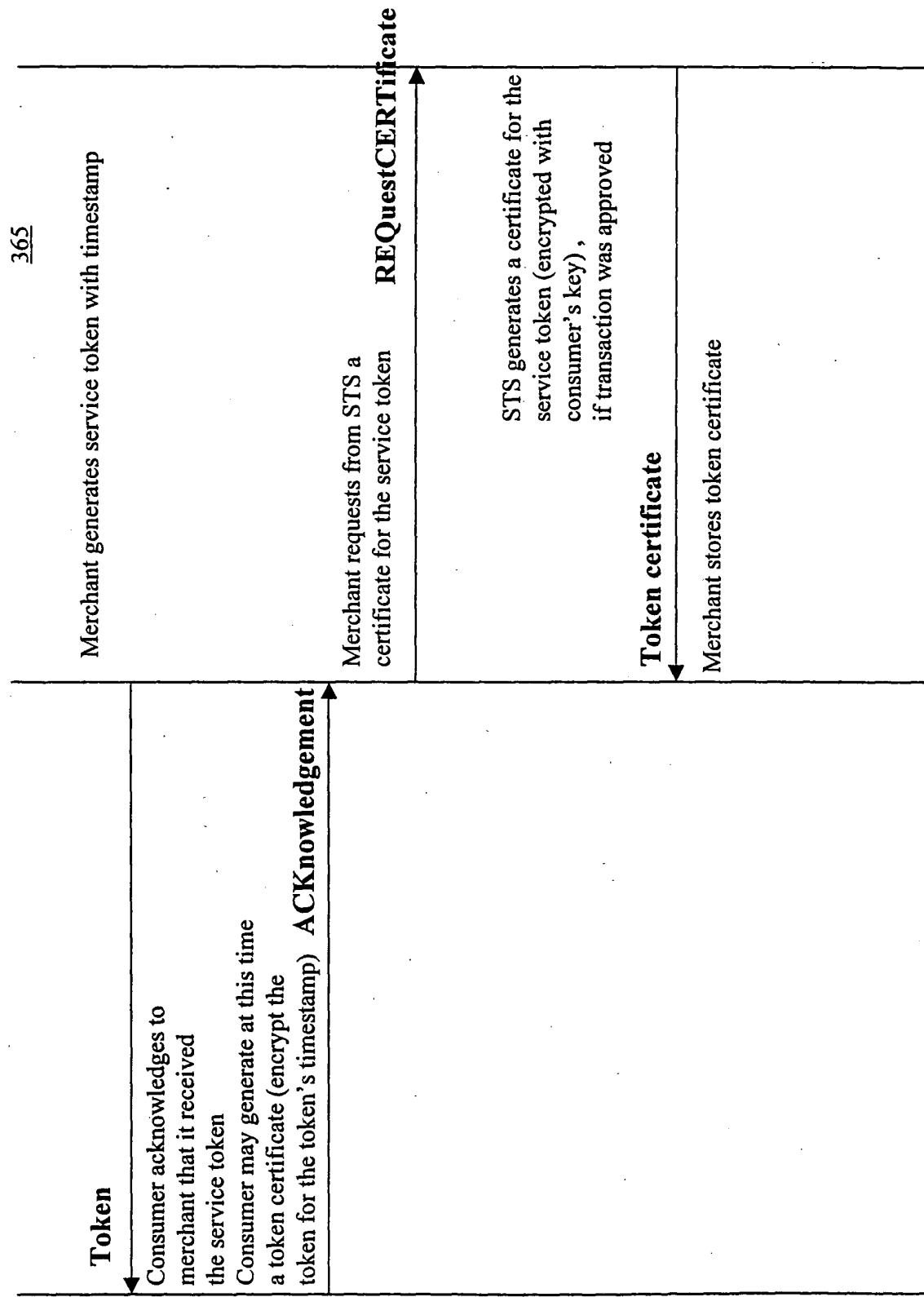
Token Creation and AUTHorization

Figure 18

Consumer 102

Merchant 104

STS 106



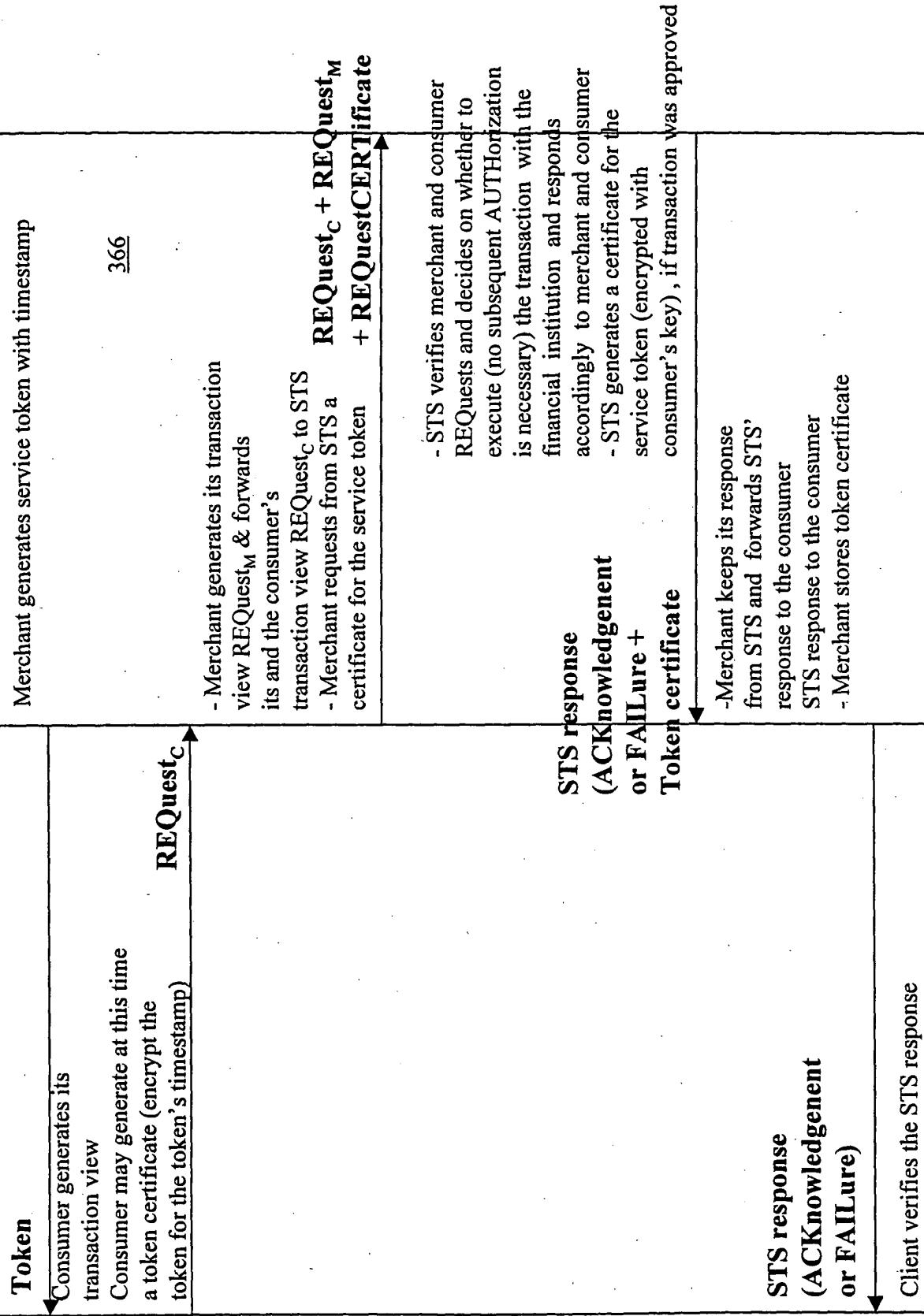
Token Creation

Figure 19

Consumer 102

Merchant 104

STS 106



Single step REQuest, AUTHorization and Token Creation

Figure 20

STS 106

Merchant 104

Consumer 102

Single step REQuest, AUTHorization and Token Creation

367

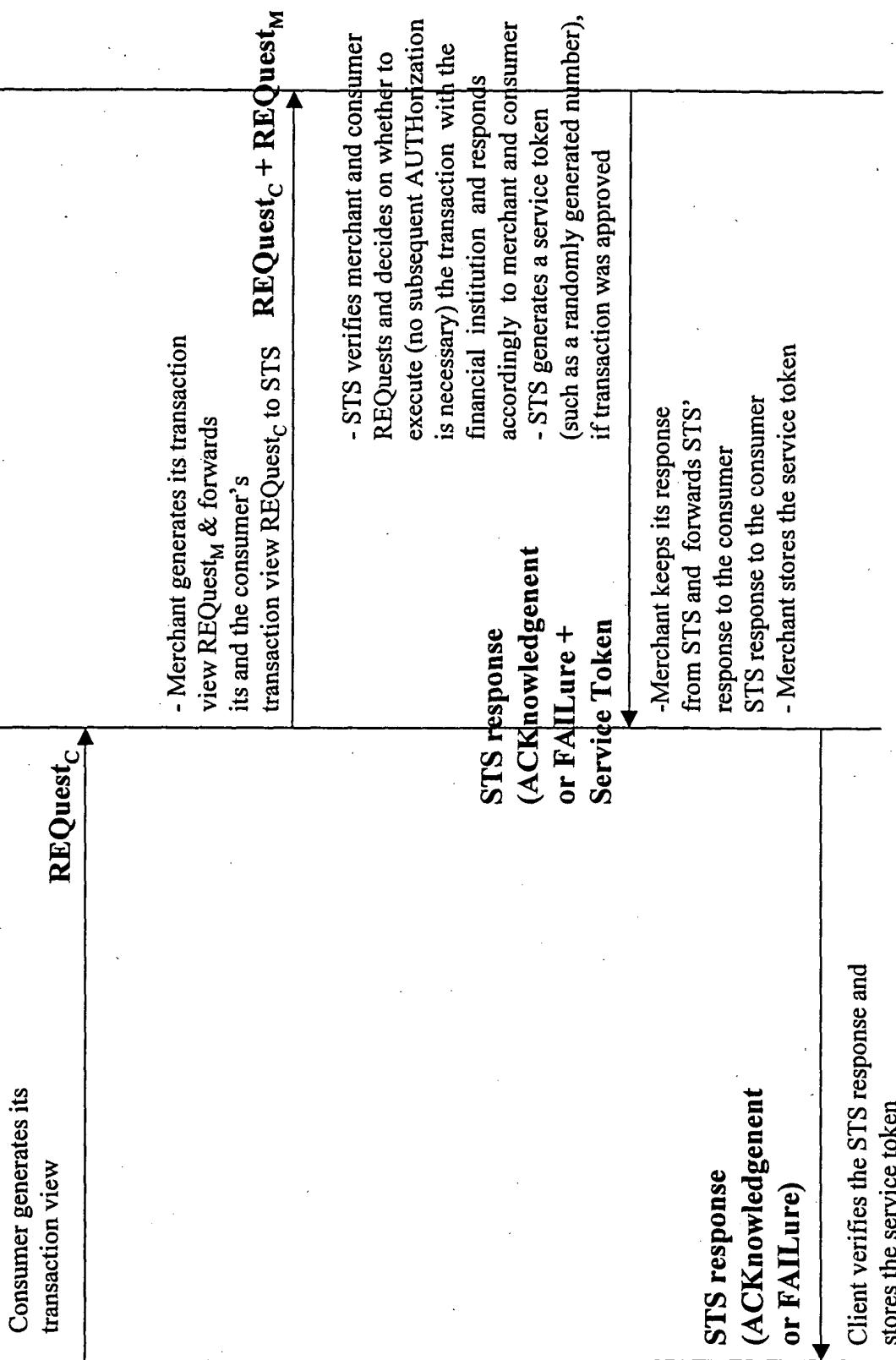


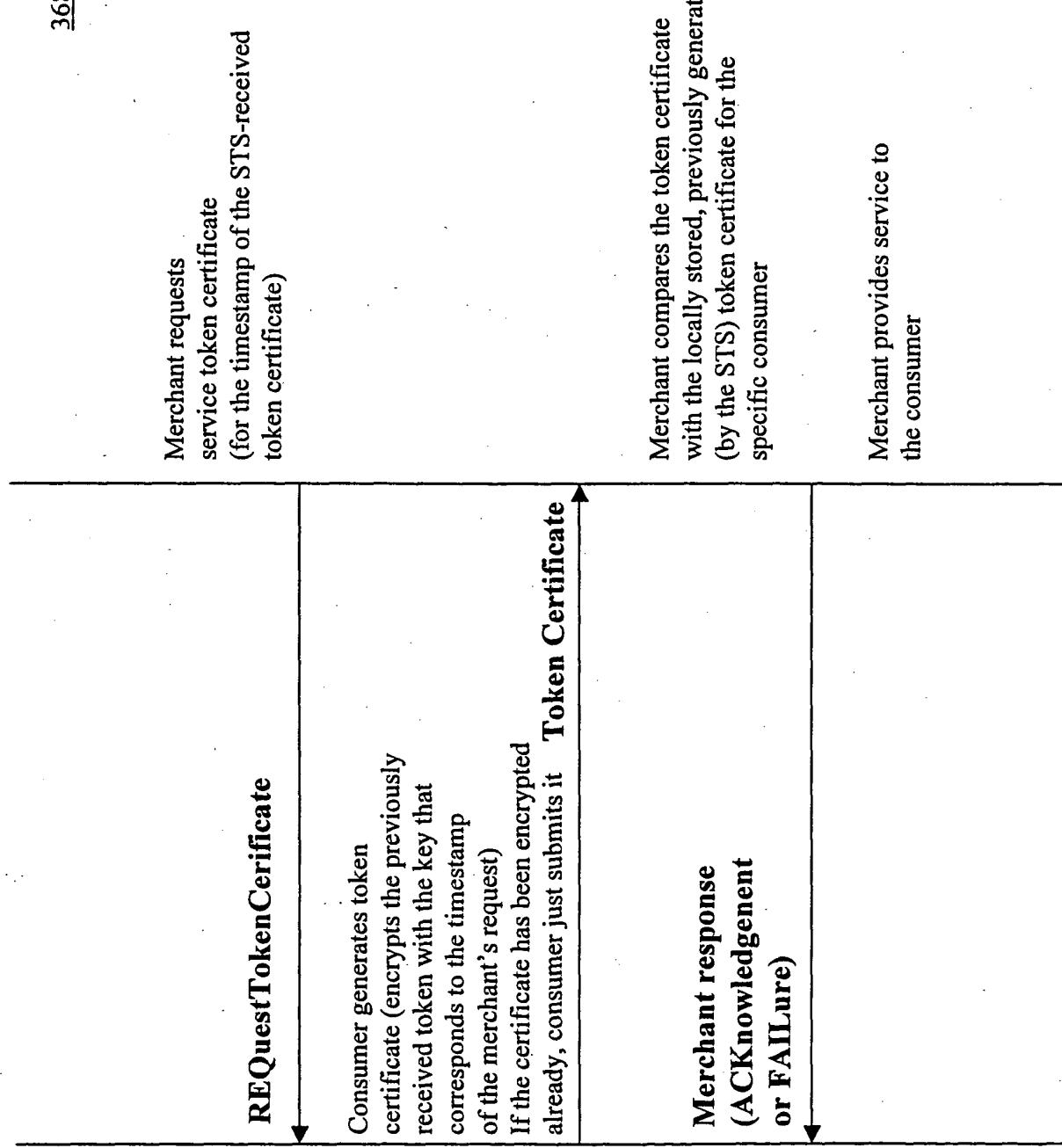
Figure 21

Consumer 102

Merchant 104

STS 106

368

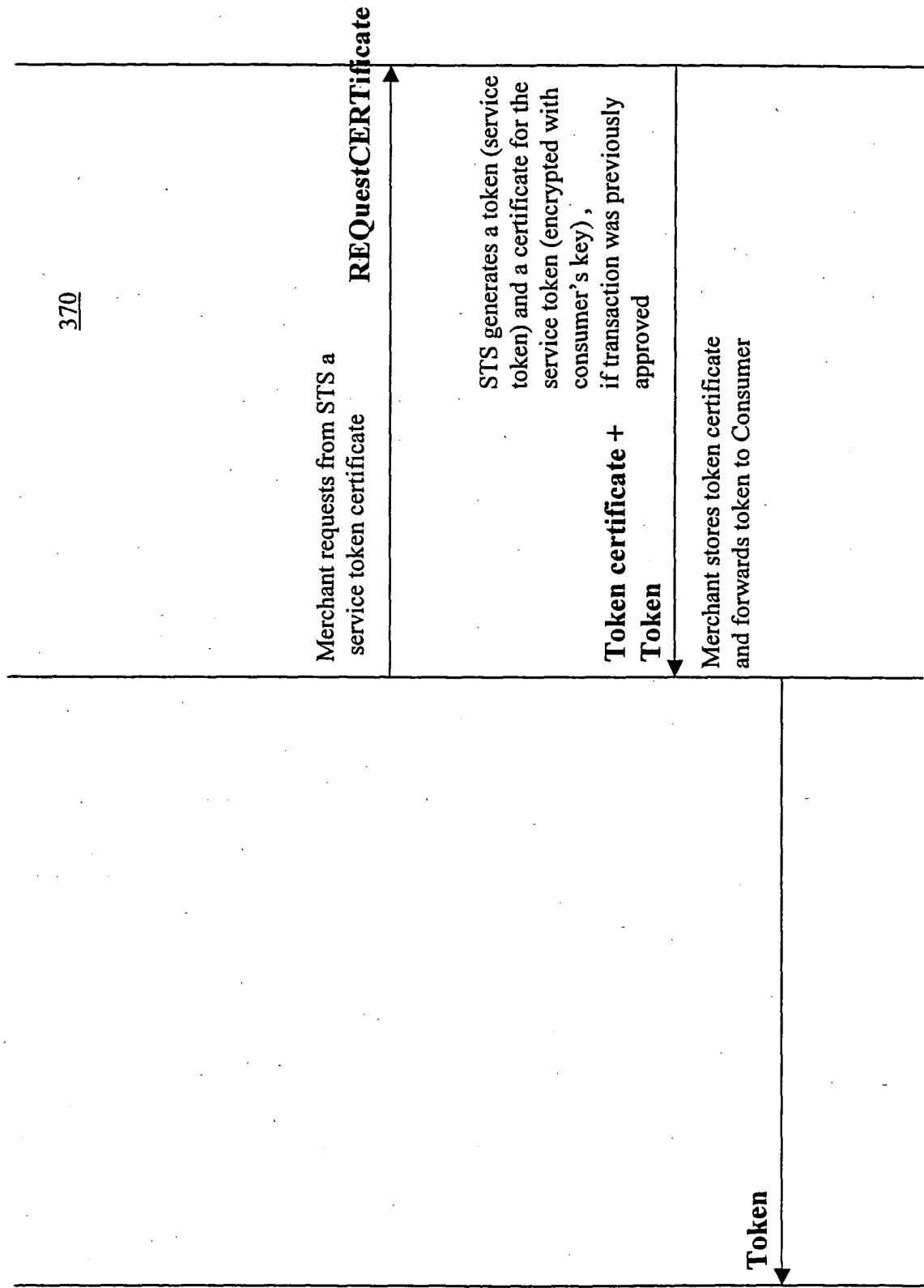


Service Token Verification and Consumption

Consumer 102

Merchant 104

STS 106



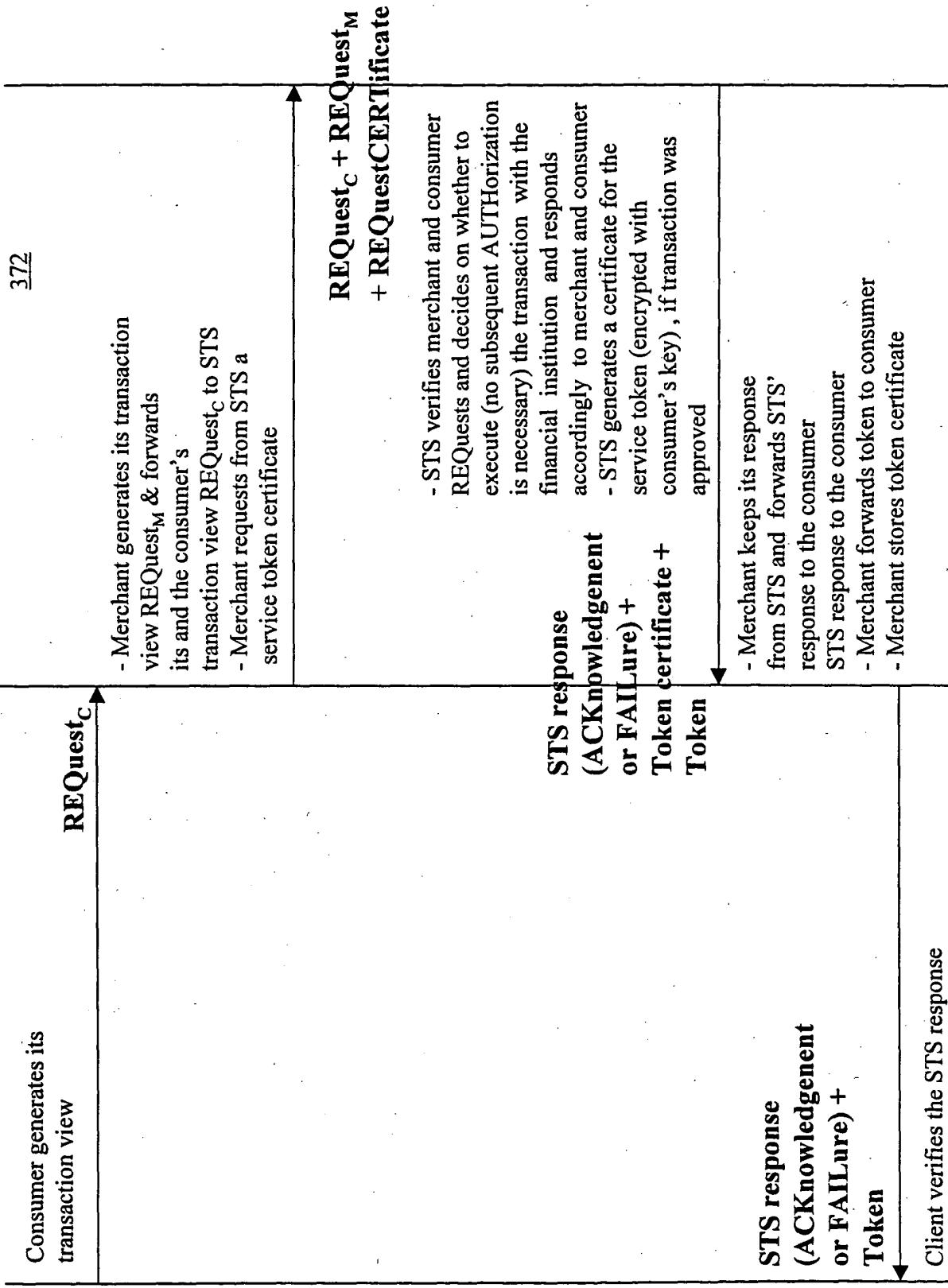
Token Creation

Figure 23

Consumer 102

Merchant 104

STS 106



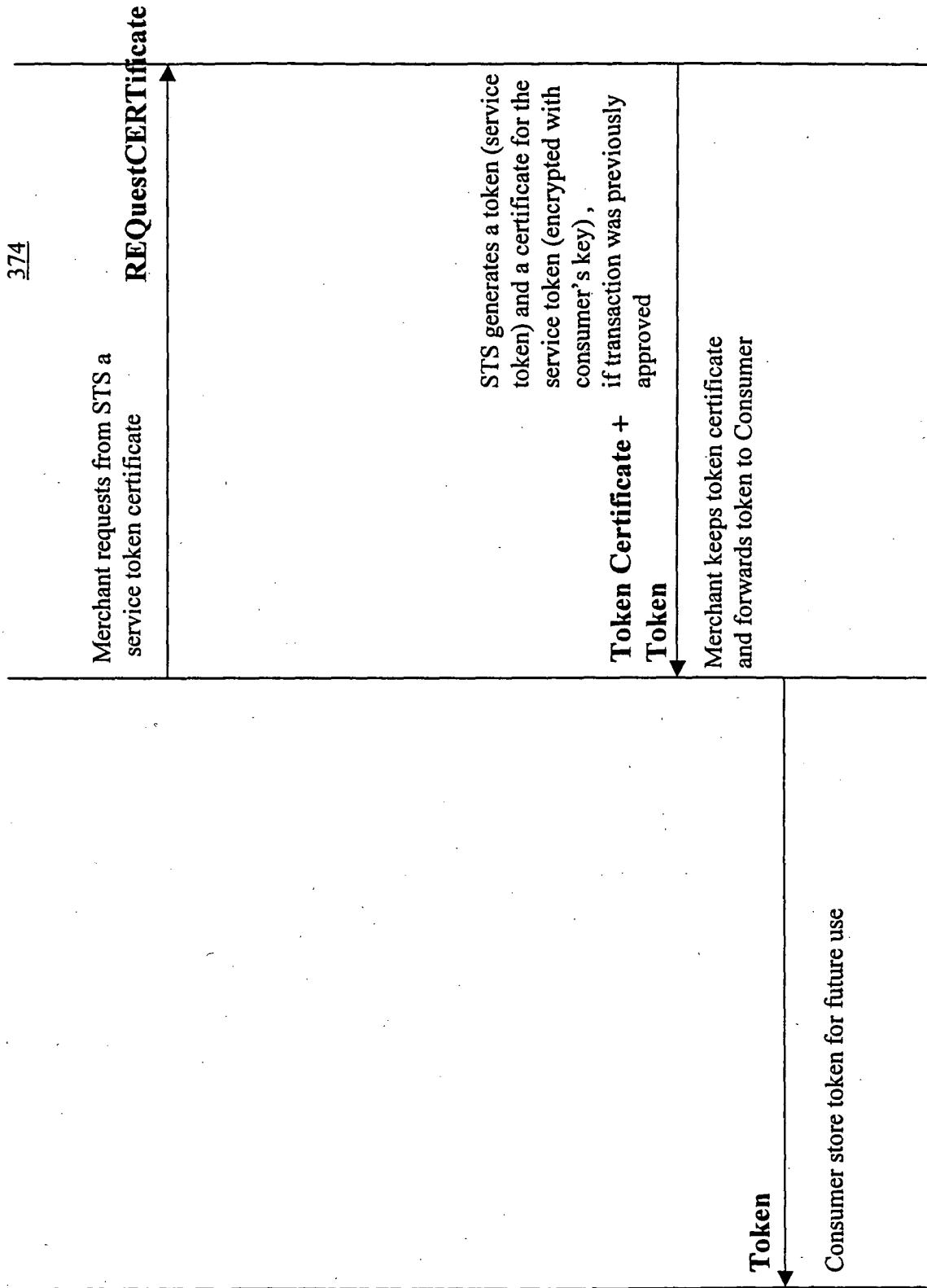
Single step REQuest, AUTHorization and Token Creation
(for token certificate verification by STS)

Figure 24

Consumer 102

Merchant 104

STS 106



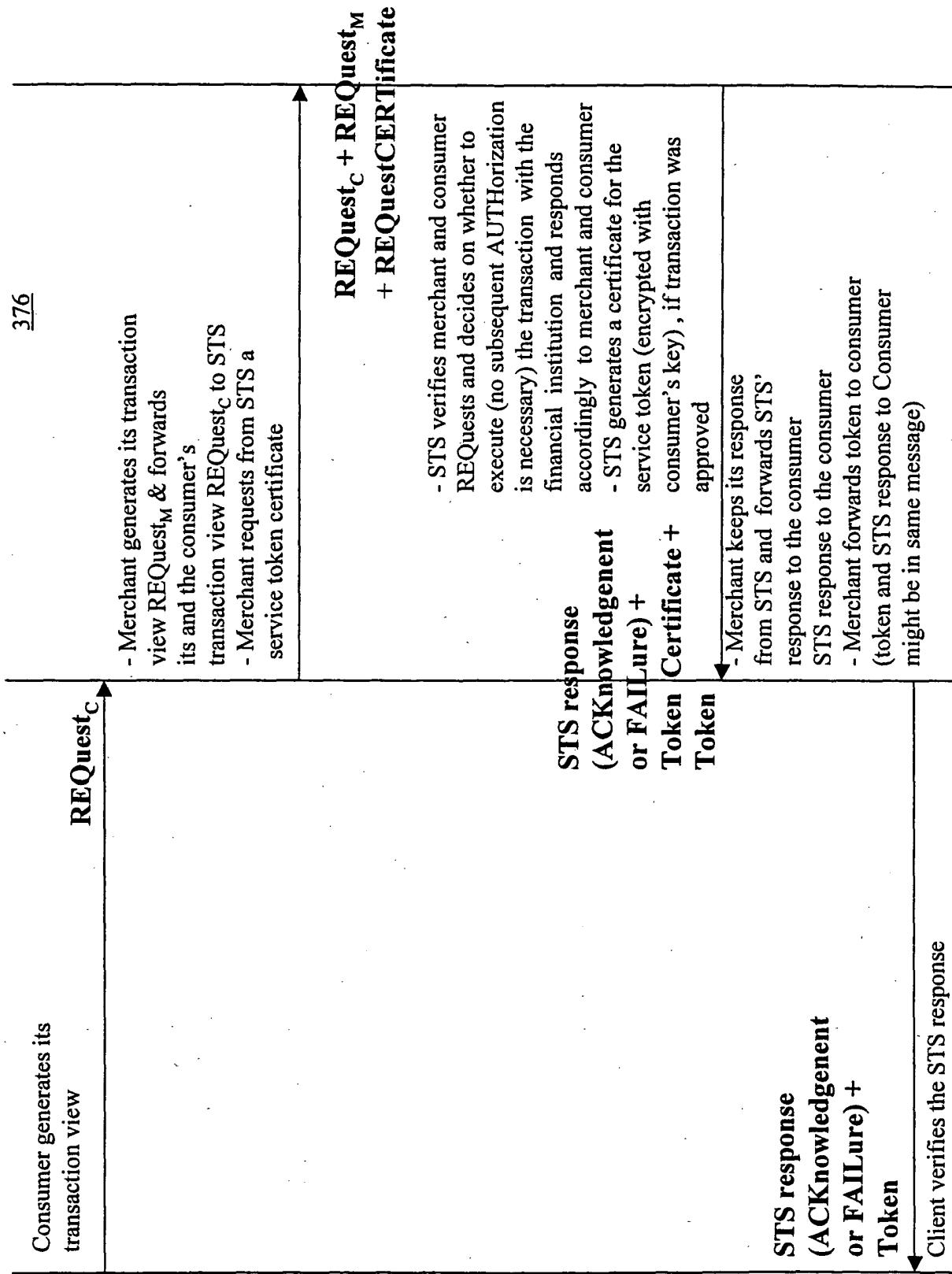
Token Creation
(for token certificate verification by STS)

Figure 25

Consumer 102

Merchant 104

STS 106



Single step REQuest, AUTHorization and Token Creation
(for token certificate verification by STS)

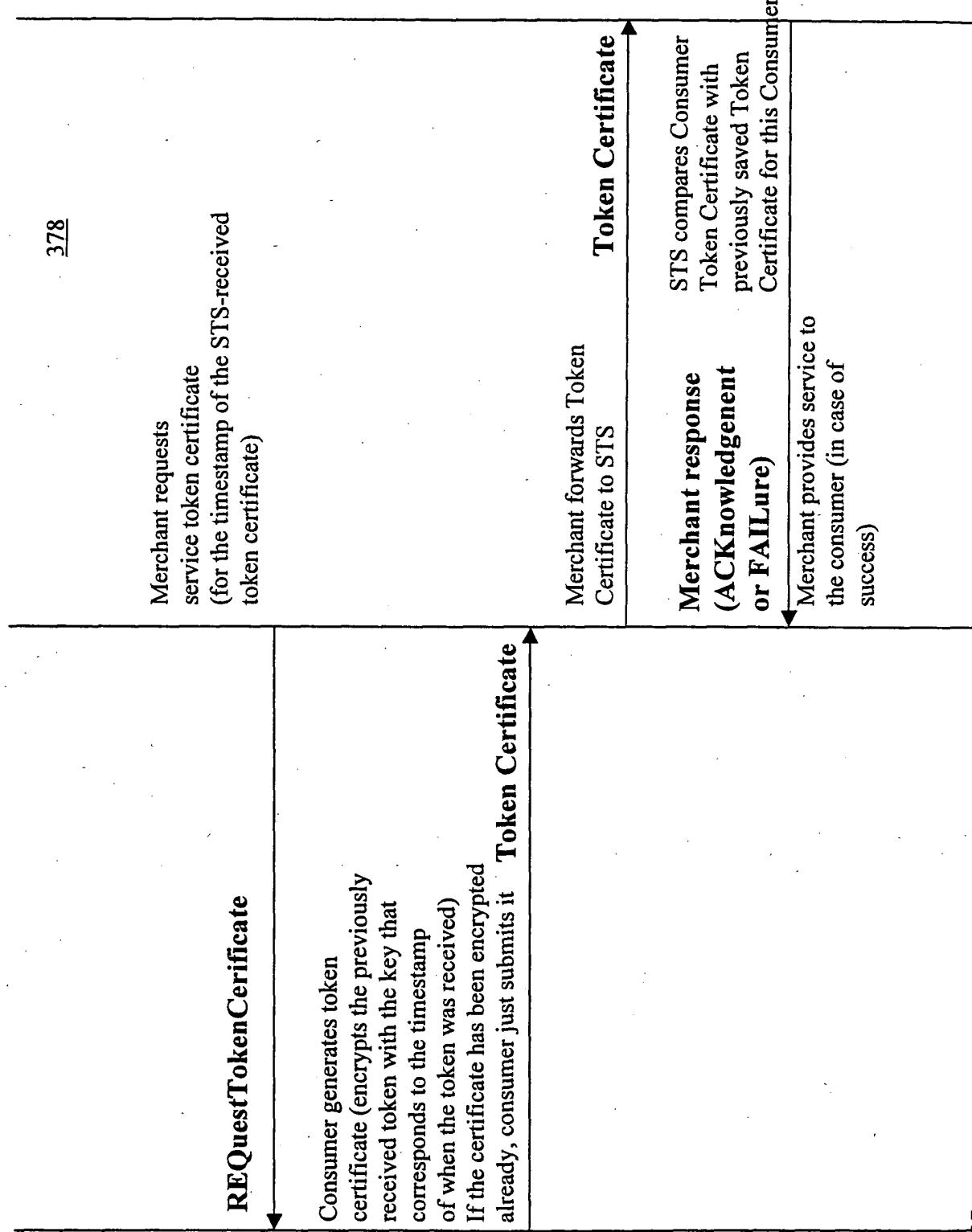
Figure 26

Consumer 102

Merchant 104

STS 106

378



Service Token Consumption (Verification by STS)

Figure 27

Consumer 102

Merchant 104

STS 106

379

Service Token Consumption (Verification by Merchant only)

Consumer submits service token.
Alternatively Consumer might
display service token on his device

Service Token

Merchant provides service to
the consumer if he already has such
a service token for that consumer
(i.e. consumer previously paid for the service)
Such a token would have been sent to the merchant by
the STS upon the successful execution of a prior
transaction

Figure 28

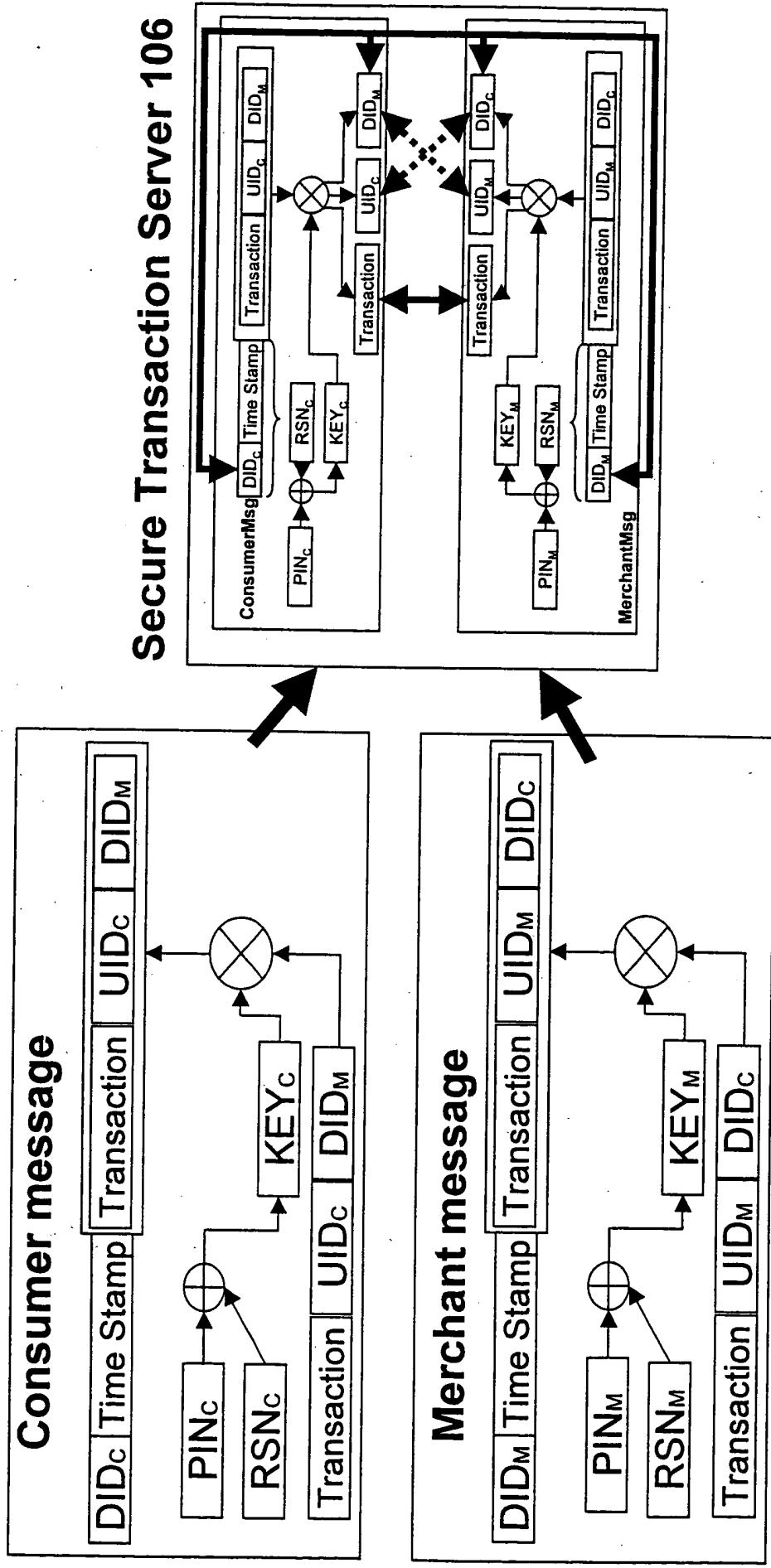
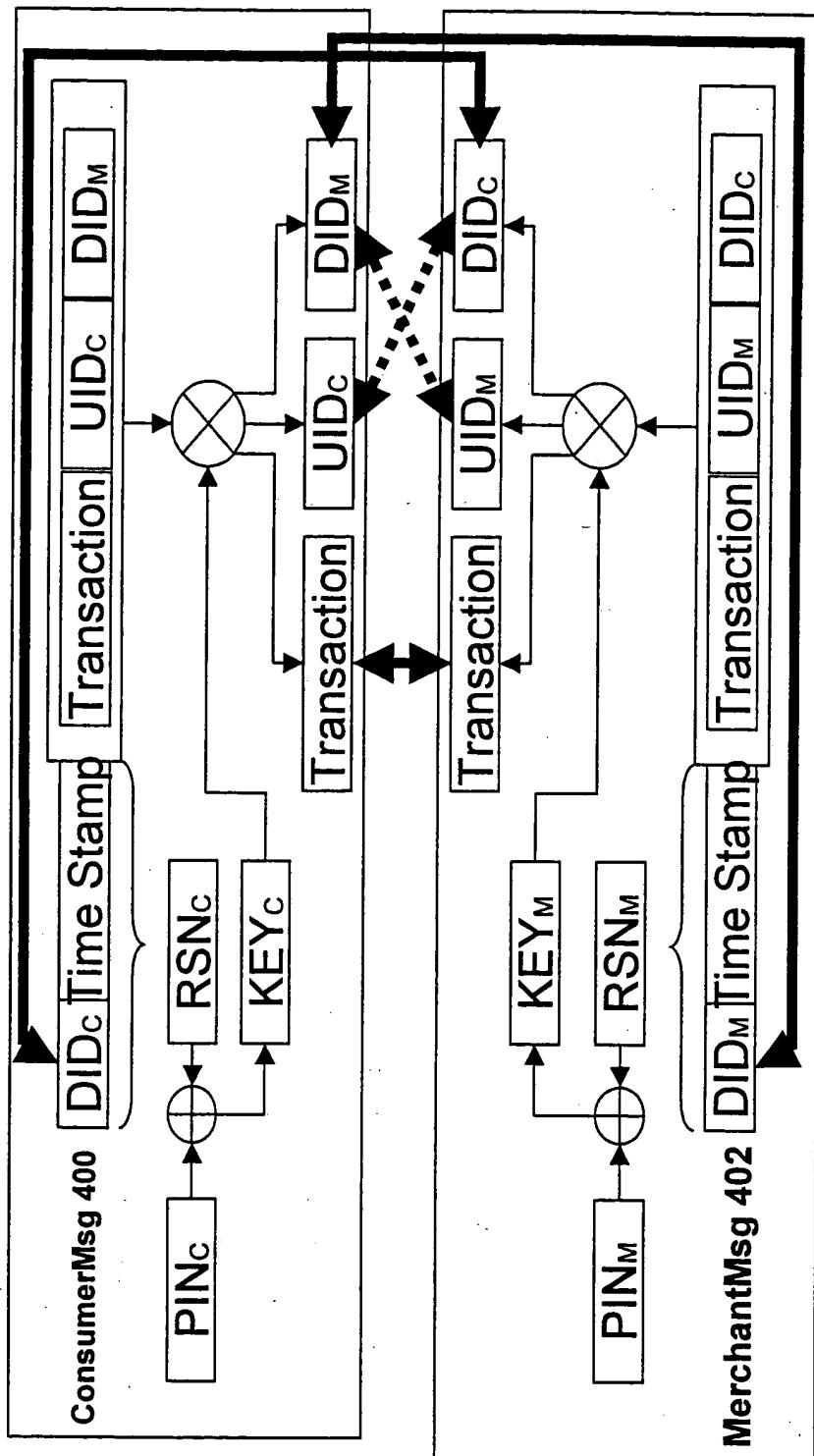


Figure 29

106



Matching
...
Matching
with local
lookup

Figure 30

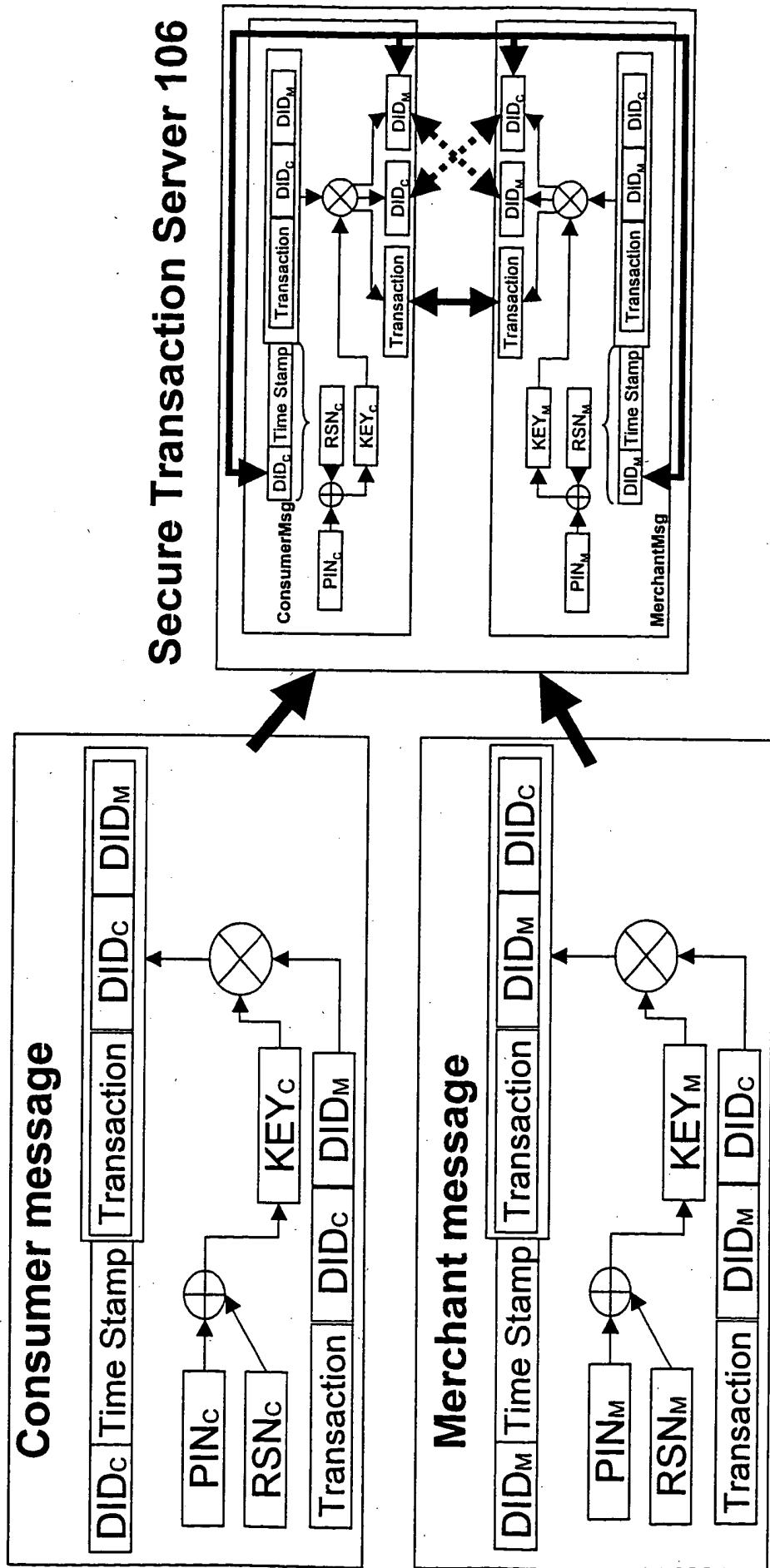


Figure 31

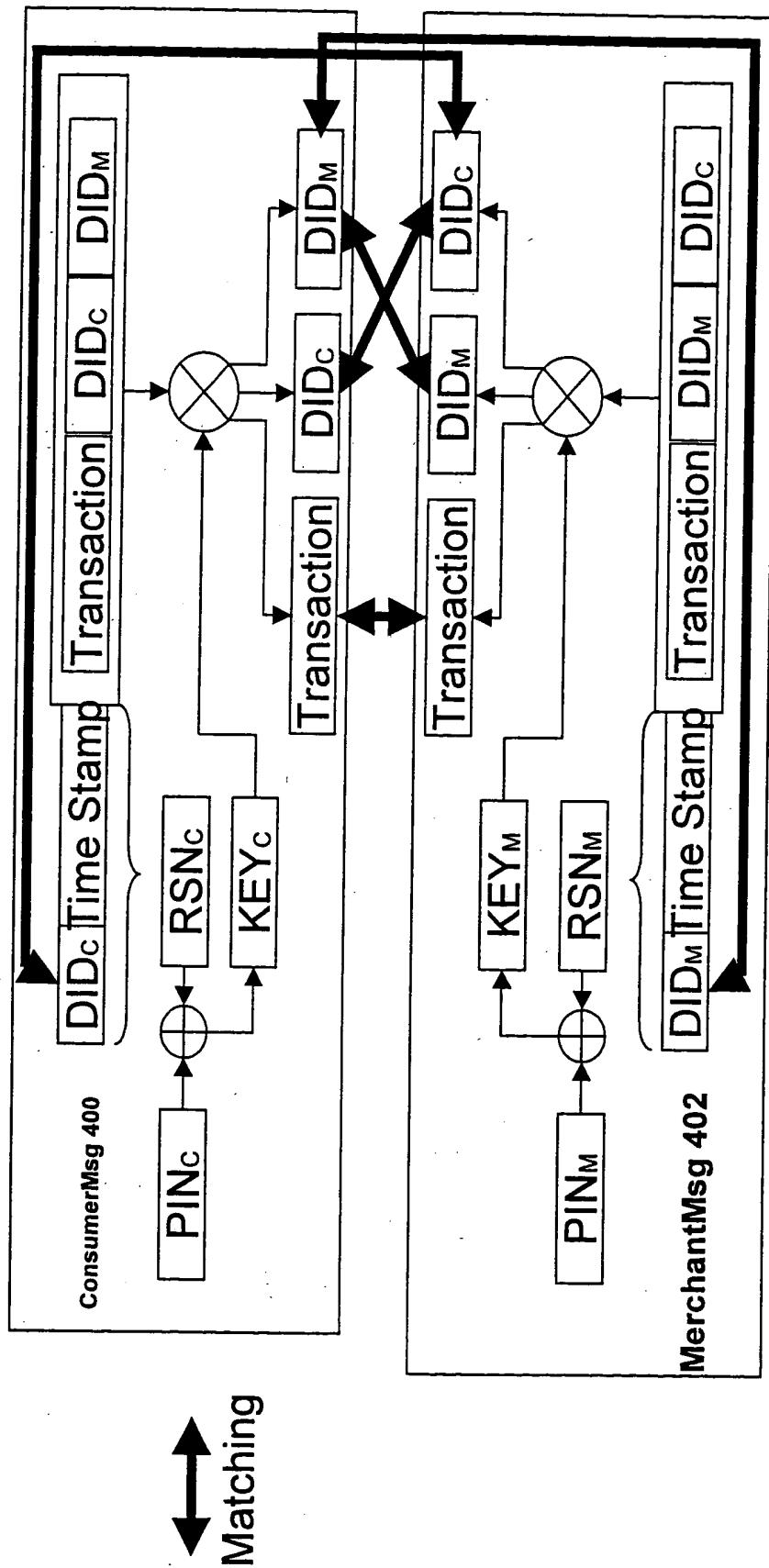


Figure 32

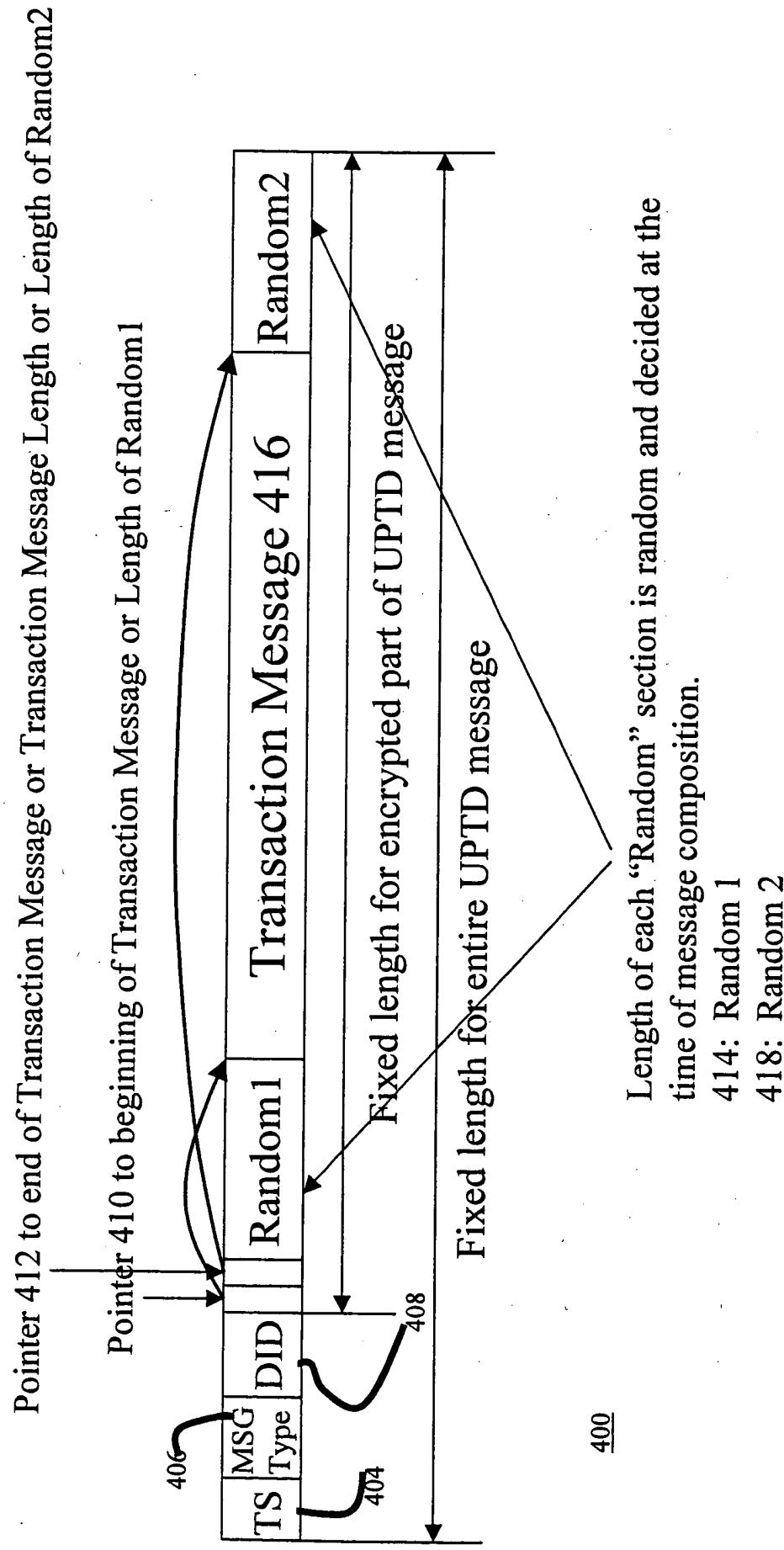


Figure 33

420

A	B	C	D	E	F	G
---	---	---	---	---	---	---

- A: Message type (REQuest or AUTHorization; REQuest in this case)
- B: Success Code for response to this message
- C: Failure Code for response to this message
- D: DID of message sending device
- E: DID of other transacting party's device
- F: Transaction amount or some other agreed transaction description
- G: Friendly name of account to be used to pay D's user, amount E
F is optional and might be specified in AUTHorization message

Figure 34

422

A	B	C	D	E	F
---	---	---	---	---	---

- A: Message type (REQuest or AUTHorization; REQuest in this case)
- B: Success Code for response to this message
- C: Failure Code for response to this message
- D: DID of message sending device
- E: DID of other transacting party's device
- F: Transaction amount or some other agreed transaction description

Figure 35

Figure 36

424

A	B	C
---	---	---

- A: The Success or Failure code indicated by Payer depending on whether the REQuest was successful or not
- B: A randomly generated number to be used to refer to the transaction for the remainder of the change
- C: Payer's account listing

Figure 37

A	B
---	---

426

- A: The Success or Failure code indicated by Payer depending on whether the REQuest was successful or not
- B: A randomly generated number to be used to refer to the transaction for the remainder of the exchange

428

A	B	C	D	E
---	---	---	---	---

- A: Message type (REQuest or AUTHorization; AUTHorization in this case)
- B: Success Code for response to this message
- C: Failure Code for response to this message
- D: A reference to the transaction been authorized; a previously STS-generated reference is used
- E: Optional to reference payer's account if not previously specified

Figure 38

430

A	B	C	D	E
---	---	---	---	---

- A: Message type (REQuest or AUTHorization; AUTHorization in this case)
- B: Success Code for response to this message
- C: Failure Code for response to this message
- D: A reference to the transaction been authorized; a previously STS-generated reference is used
- E: Optional to reference payee's account if not previously specified

Figure 39

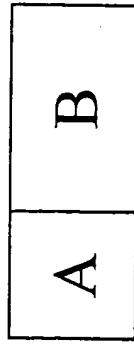
Figure 40

A	B
---	---

432

- A: The Success or Failure code indicated by Payer depending on whether the Authorization was successful or not
- B: An optional additional description, for example a service token value (receipt)

Figure 41



434

- A: The Success or Failure code indicated by Payee depending on whether the Authorization was successful or not
- B: An optional additional description, for example a service token value (receipt)

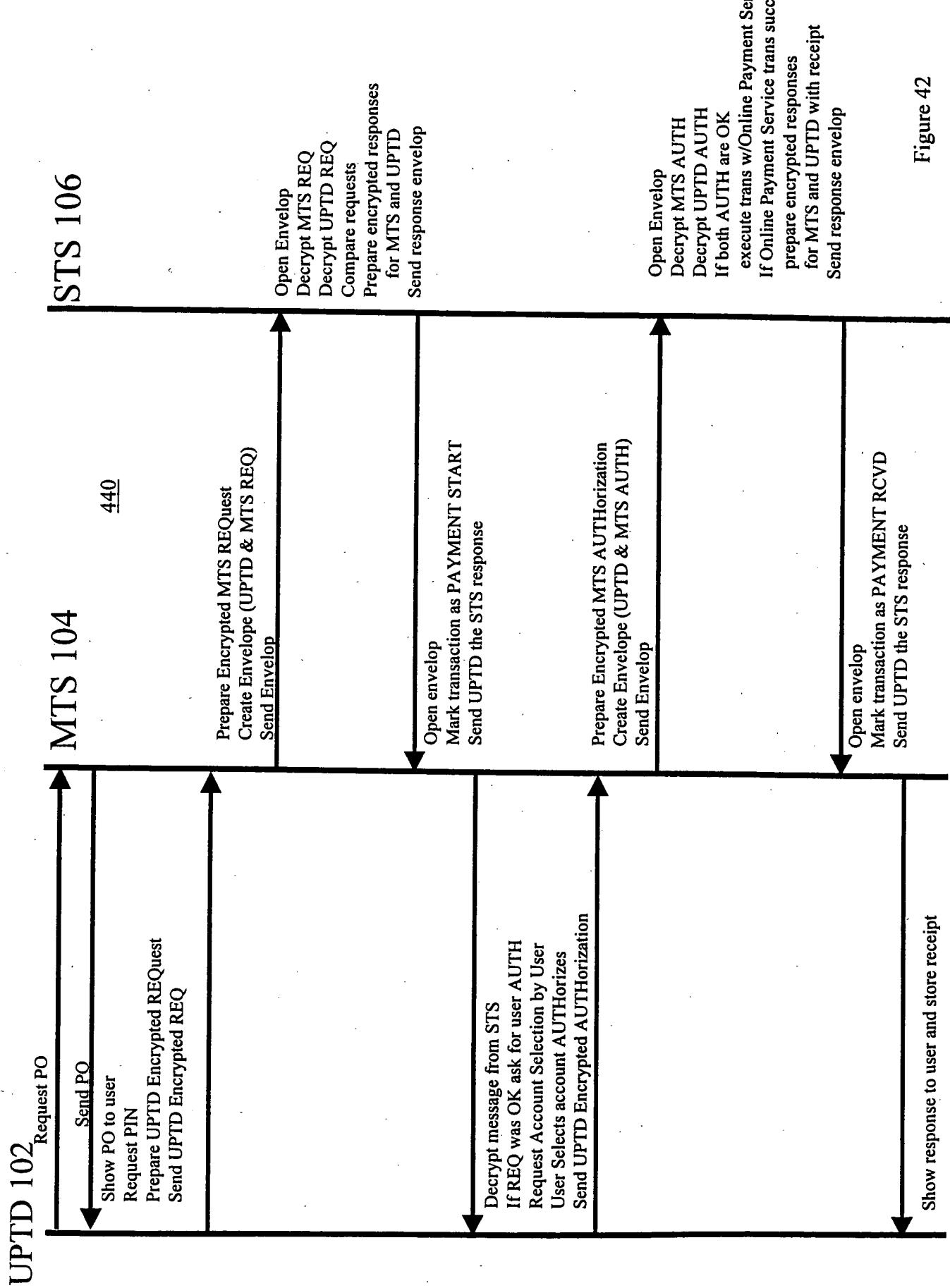


Figure 42

- 1 Consumer Requests Purchase Order (PO)
- 2 Consumer Receives PO
- 3 Consumer REQuests transaction (consumer enters PIN)
- 4 MTS sends MTS REQ and consumer REQ
- 5 STS requests from Online Payment Service the account listing for consumer
- 6 STS receives Online Payment Service account listing
- 7 STS Sends response to REQ with accounts for consumer
- 8 MTS forwards STS response to REQ to consumer
- 9 Consumer AUTHorizes transaction (consumer selects account)
- 10 MTS sends MTS AUTH and consumer AUTH
- 11 STS sends transaction to Online Payment Service
- 12 STS receives Online Payment Service response
- 13 STS sends response to AUTH
- 14 MTS forward STS response to AUTH to consumer
(consumer sees notification of success on his display)

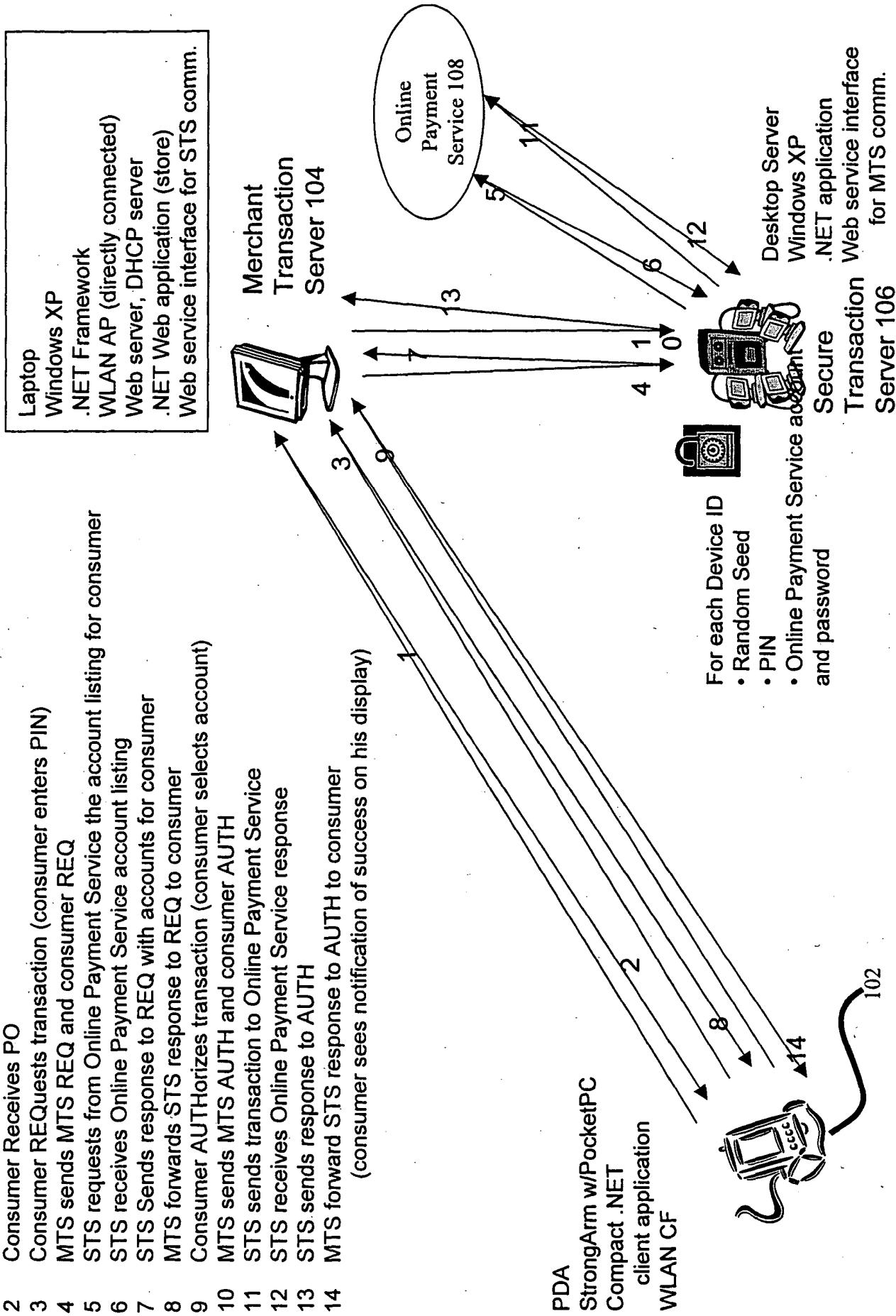


Figure 43

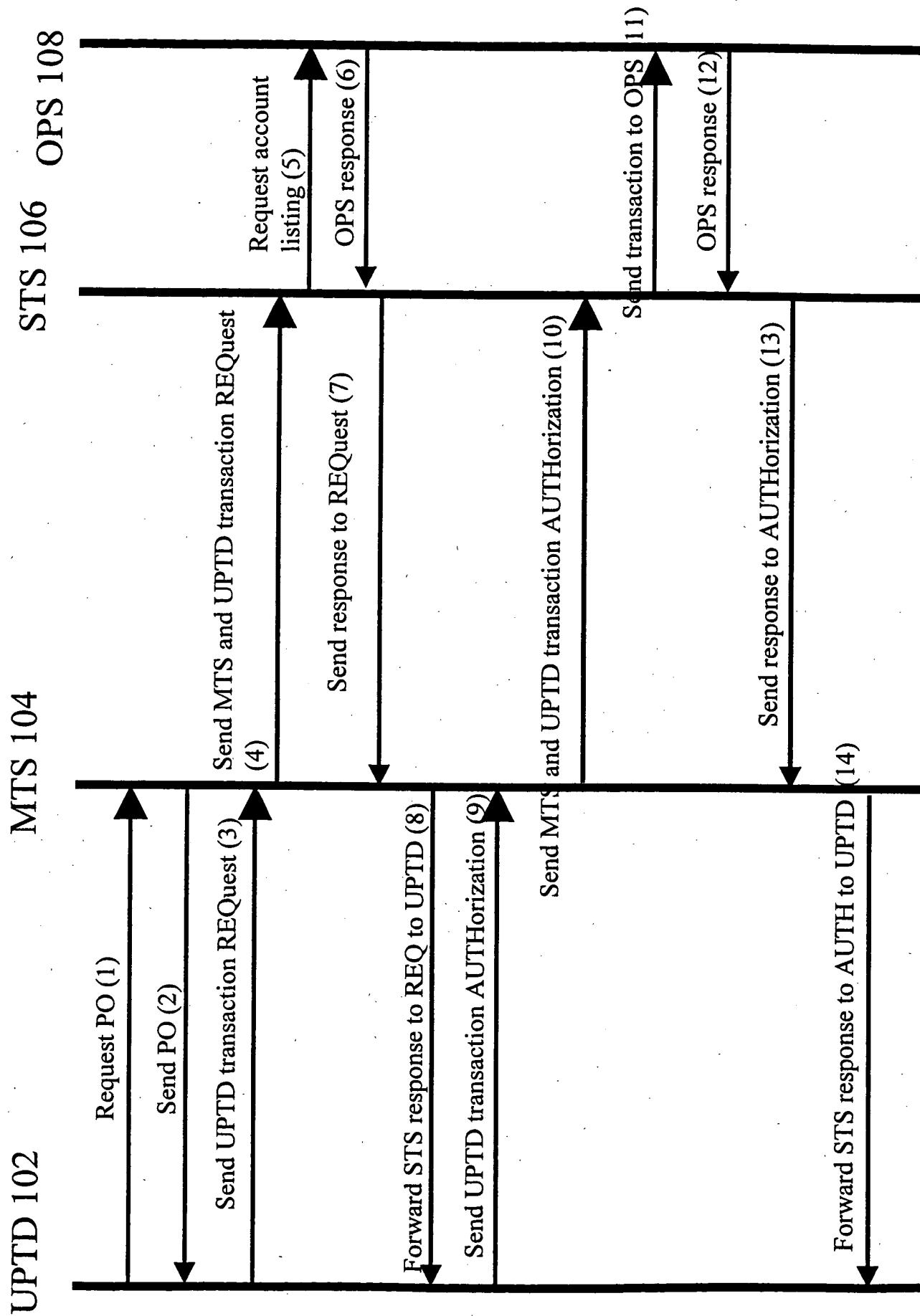


Figure 44

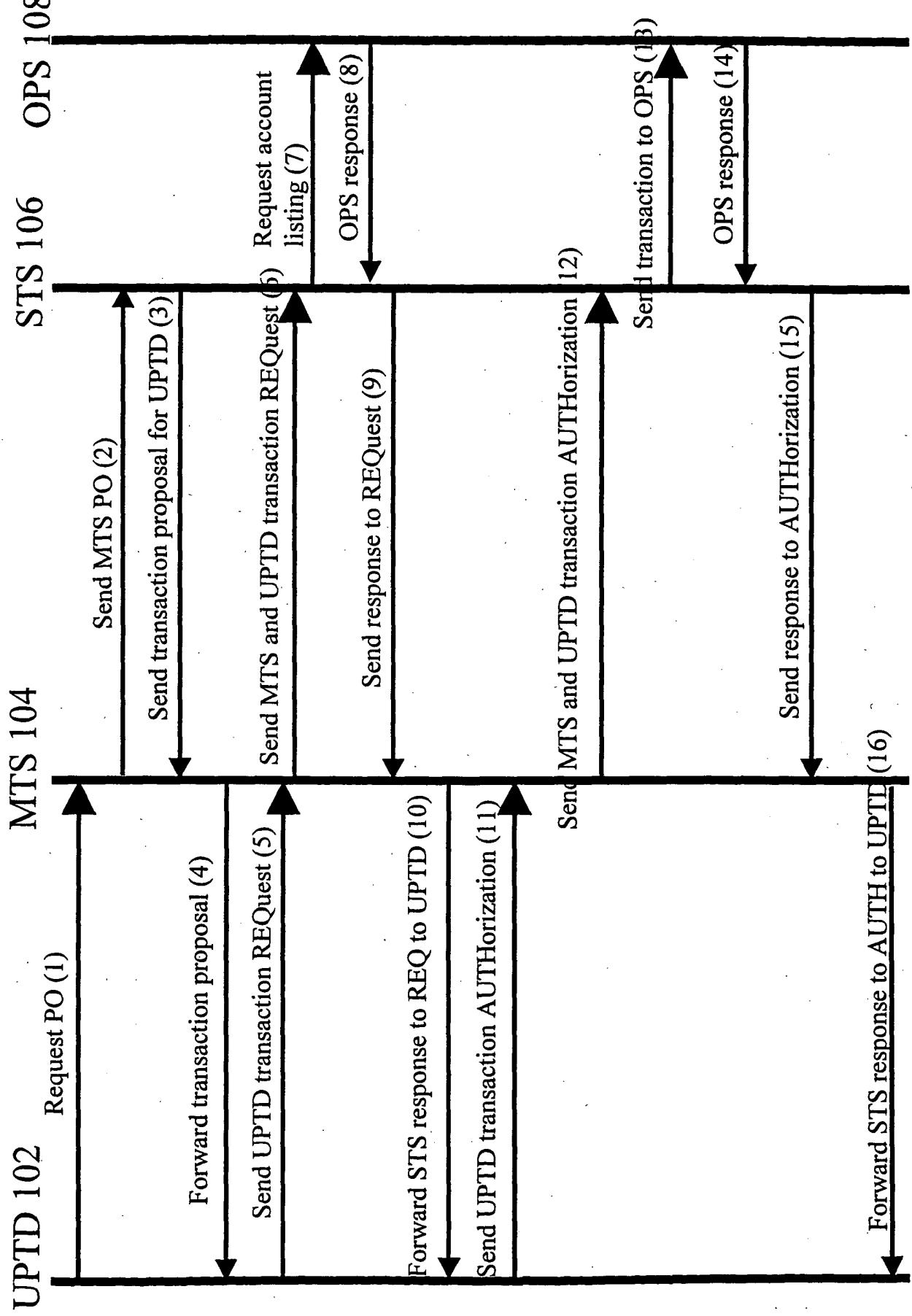


Figure 45

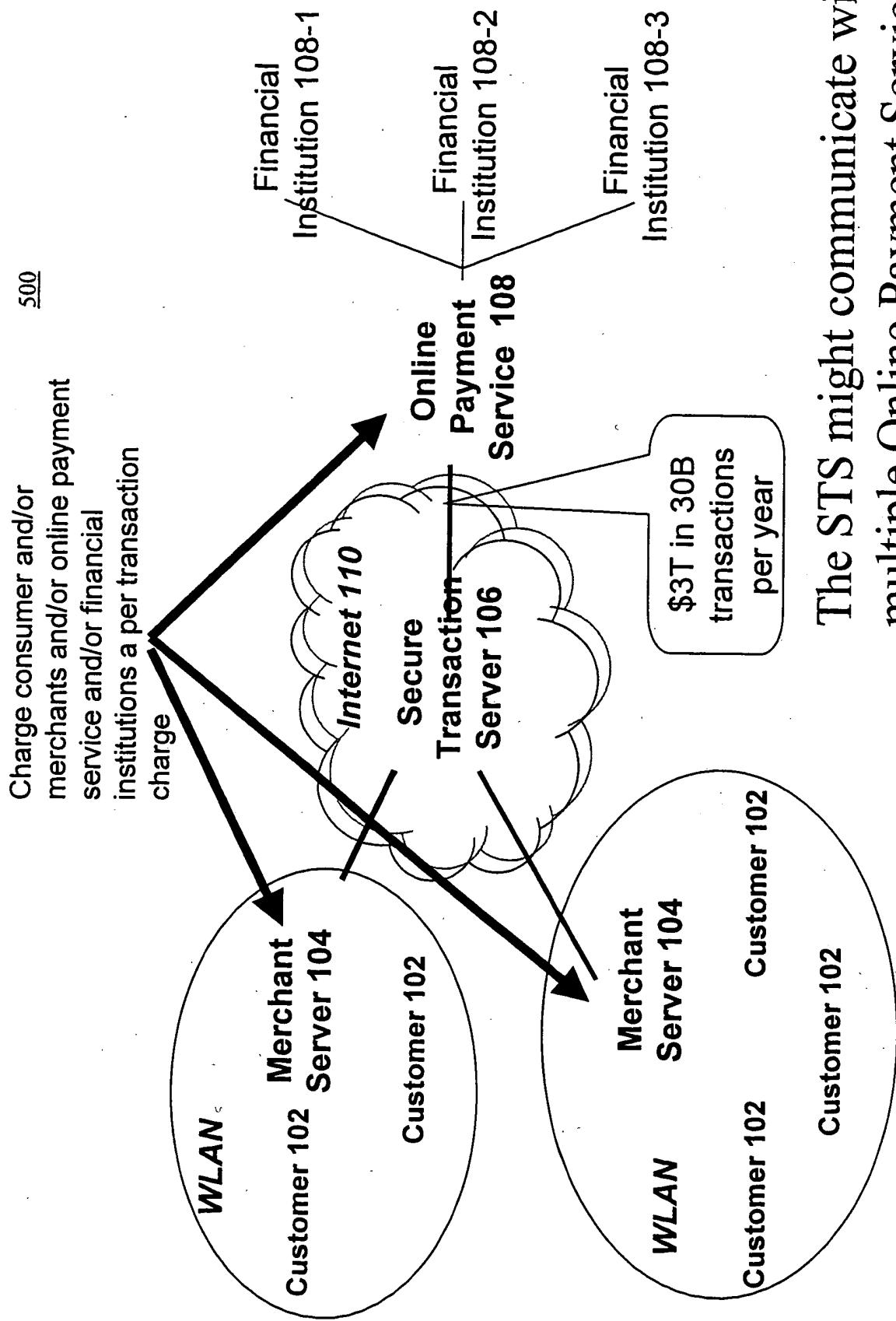


Figure 46

The STS might communicate with multiple Online Payment Services

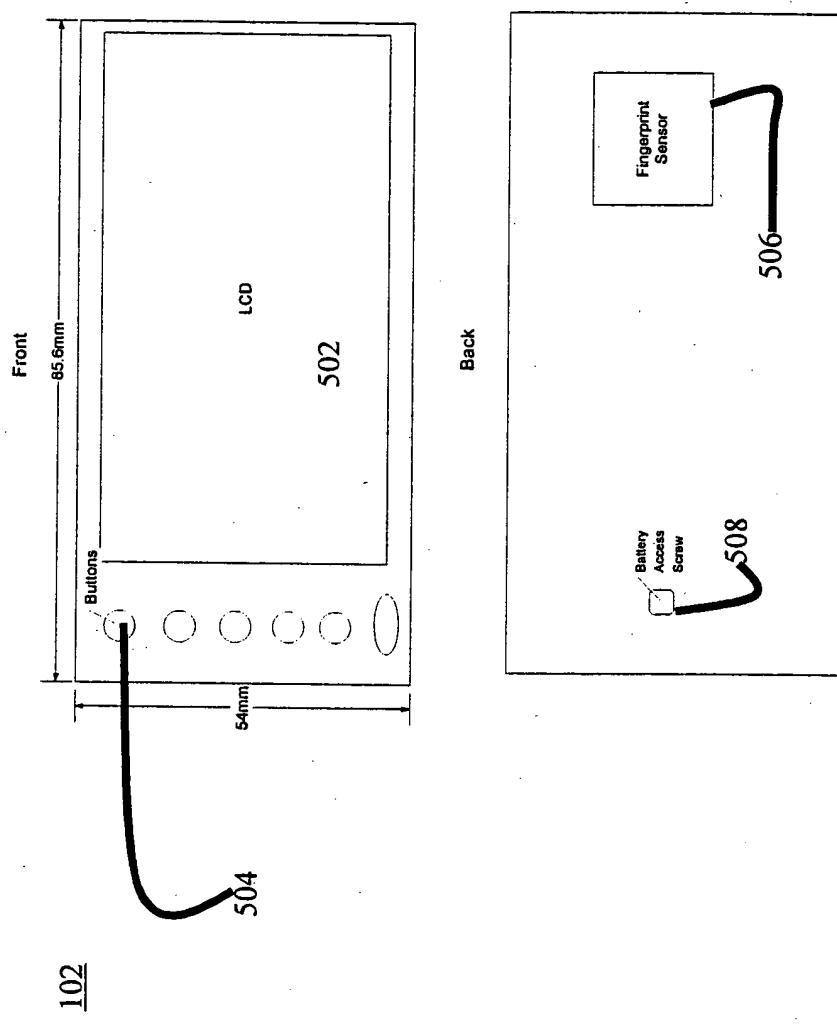
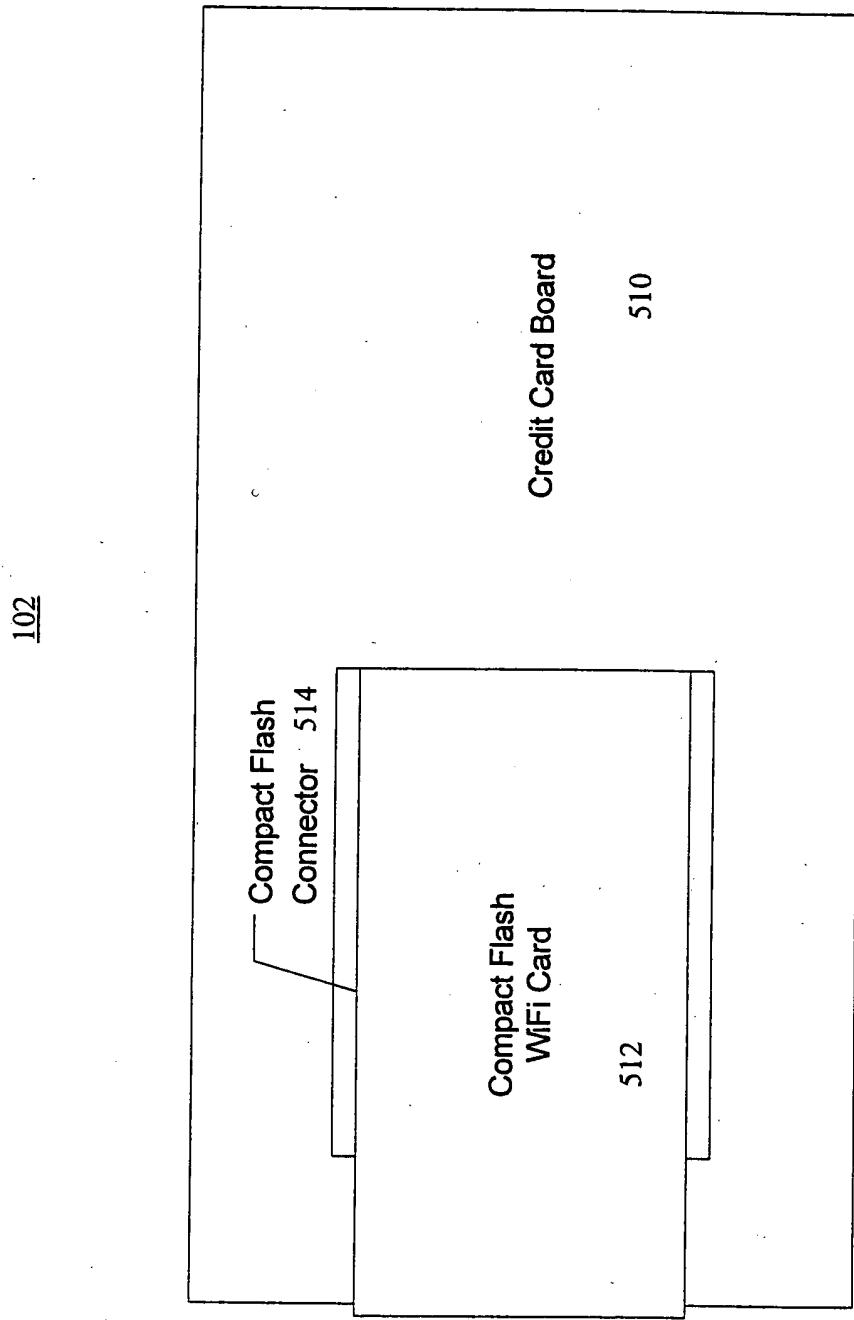


Figure 47

Figure 48



102

Side View (not to scale) 102

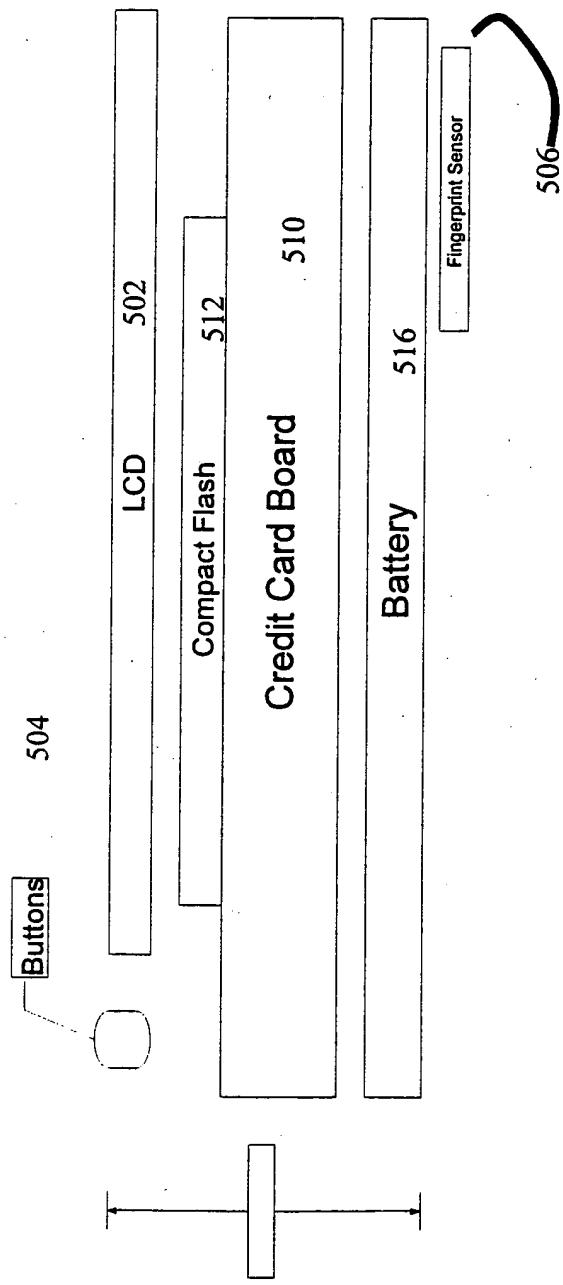


Figure 49

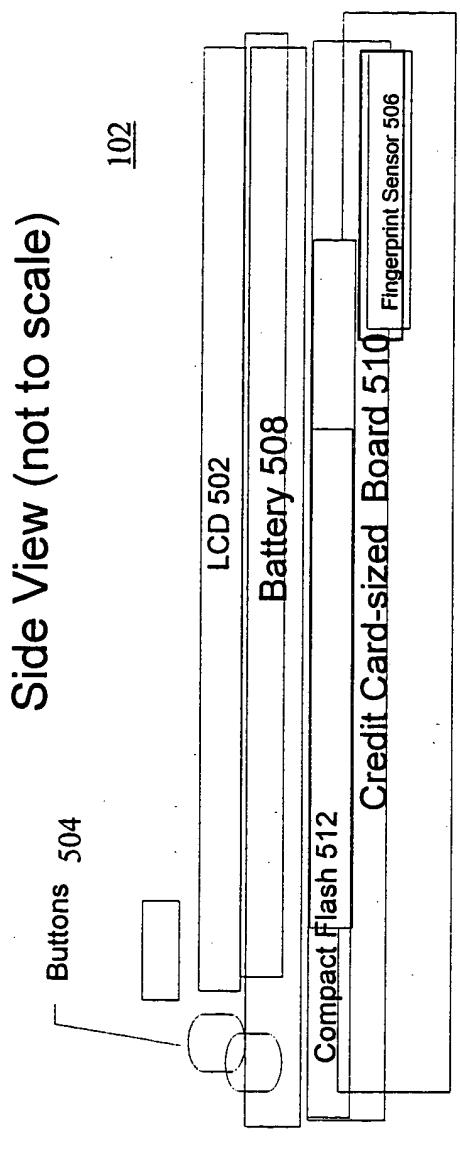


Figure 50

Pre-purchasing phase, example 600

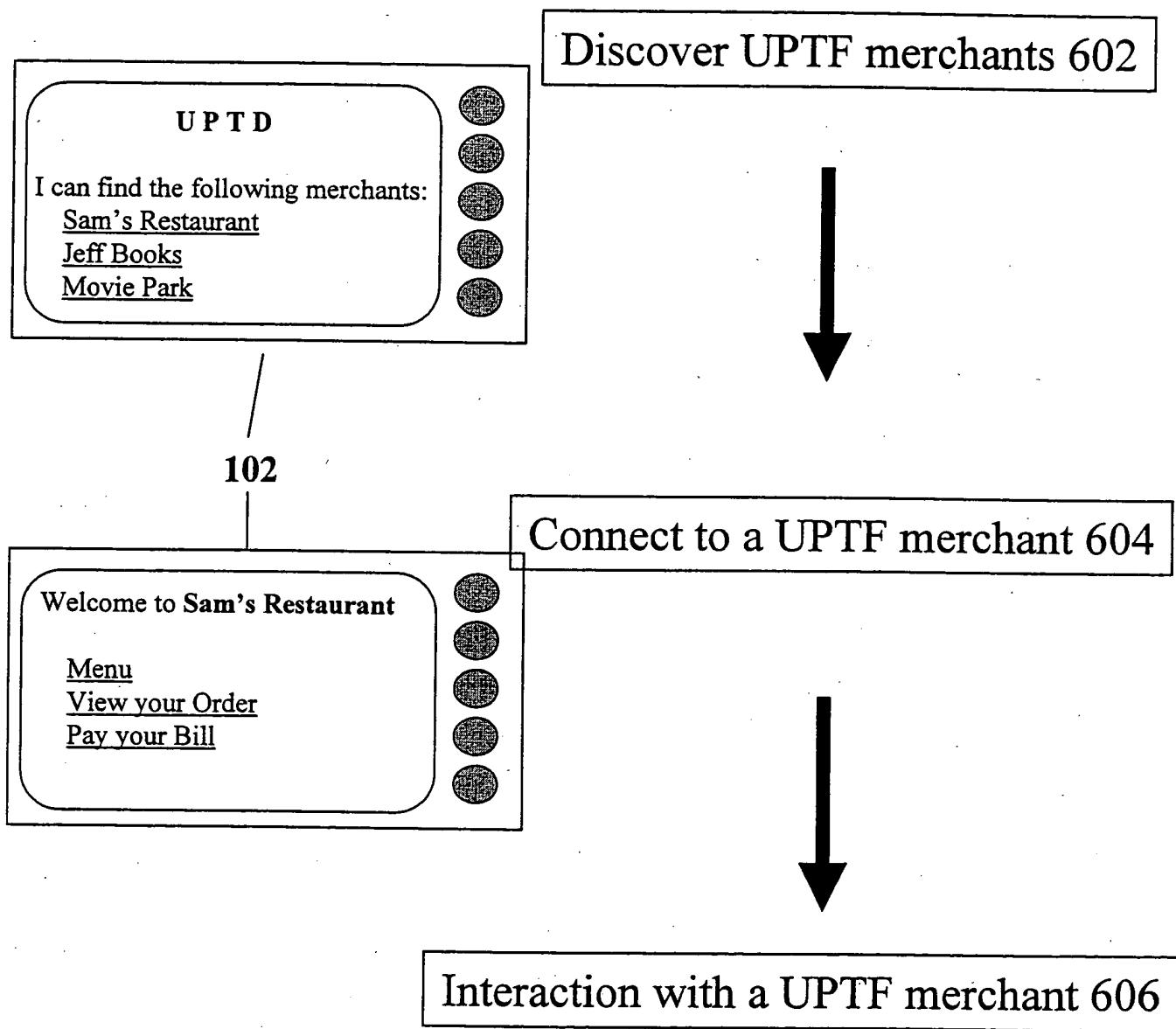


Figure 51

Physical Goods Purchase I, example 610

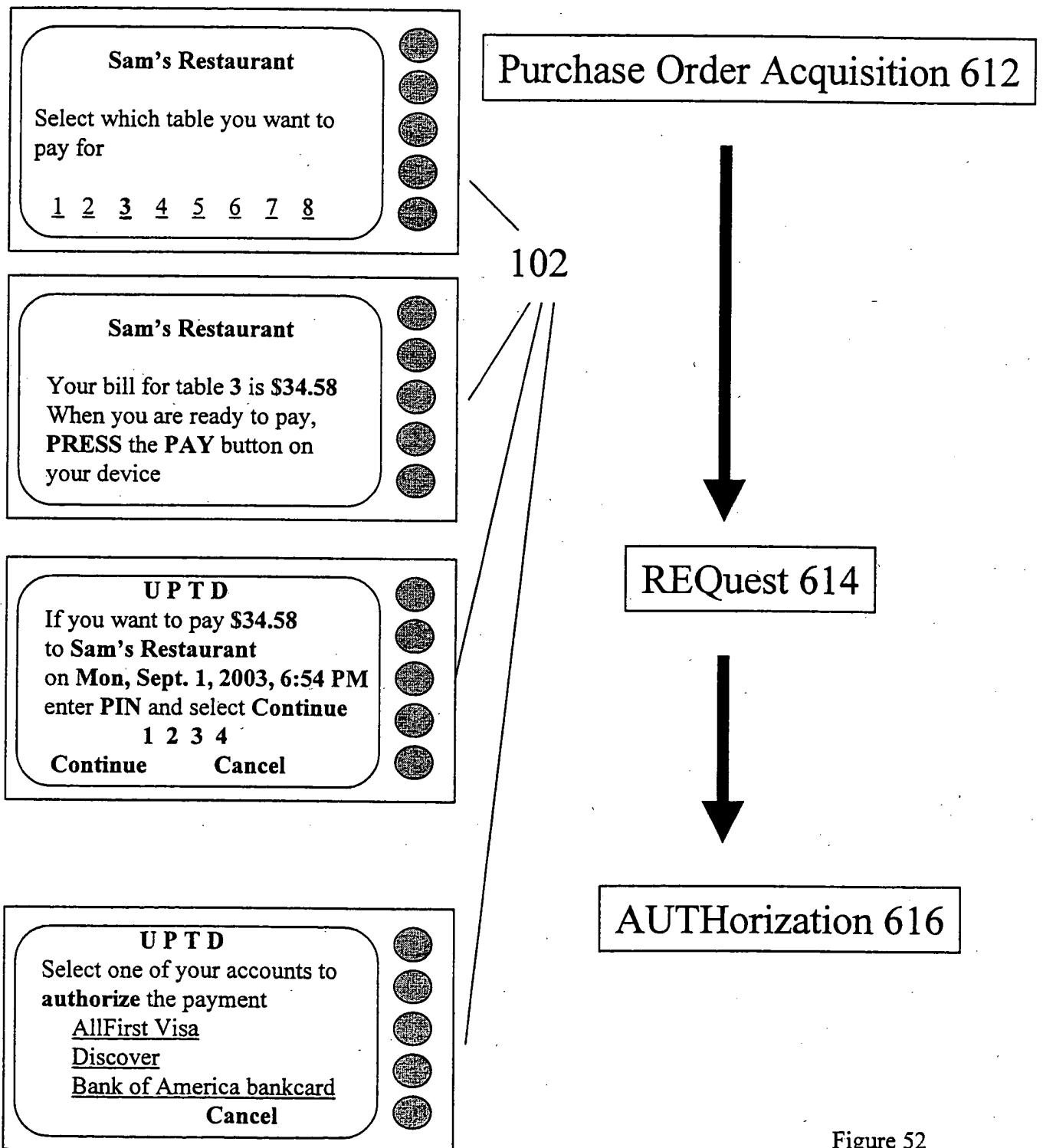


Figure 52

Physical Goods Purchase I, example, variation 620

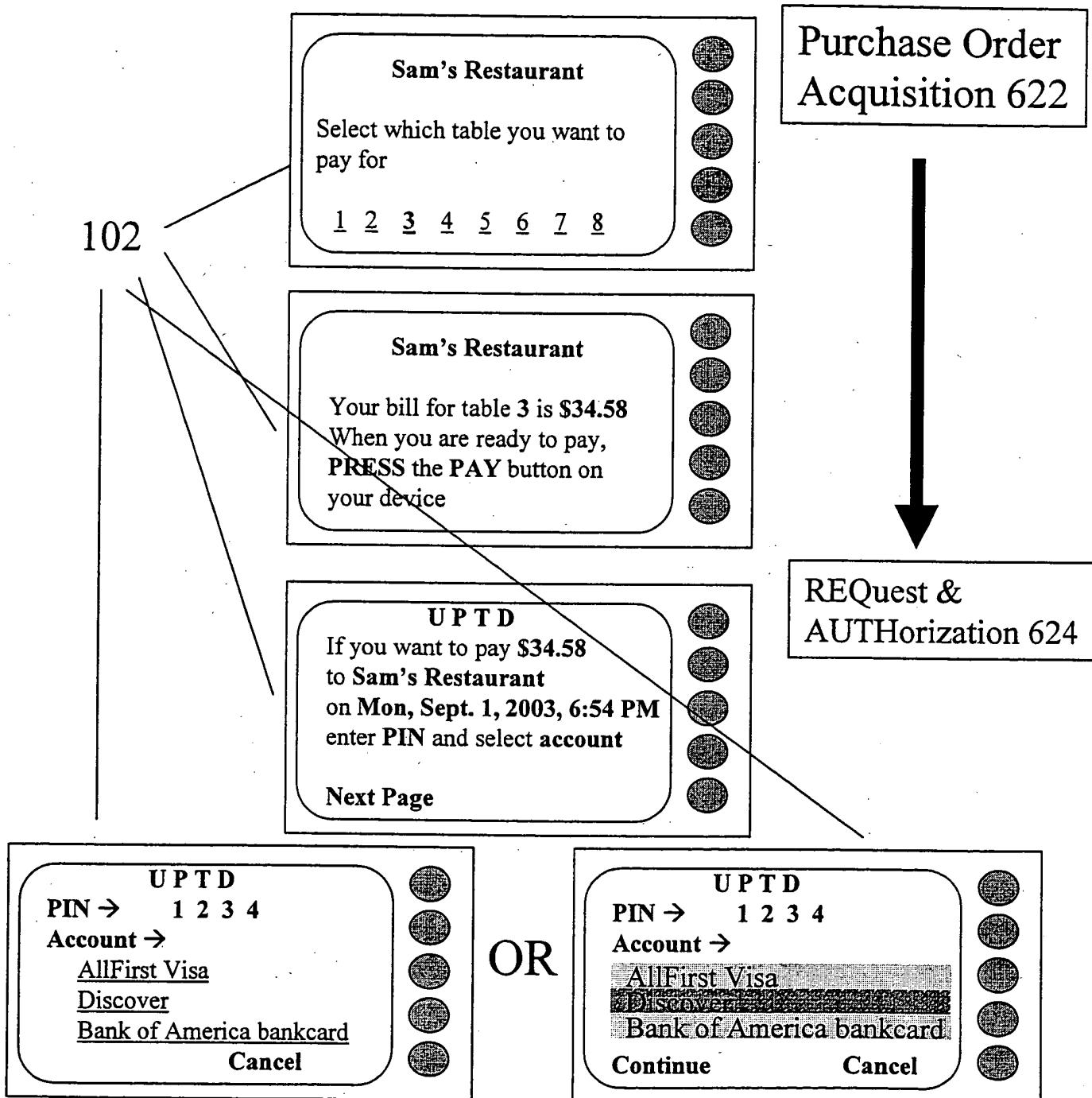


Figure 53

Physical Goods Purchase II, example 630

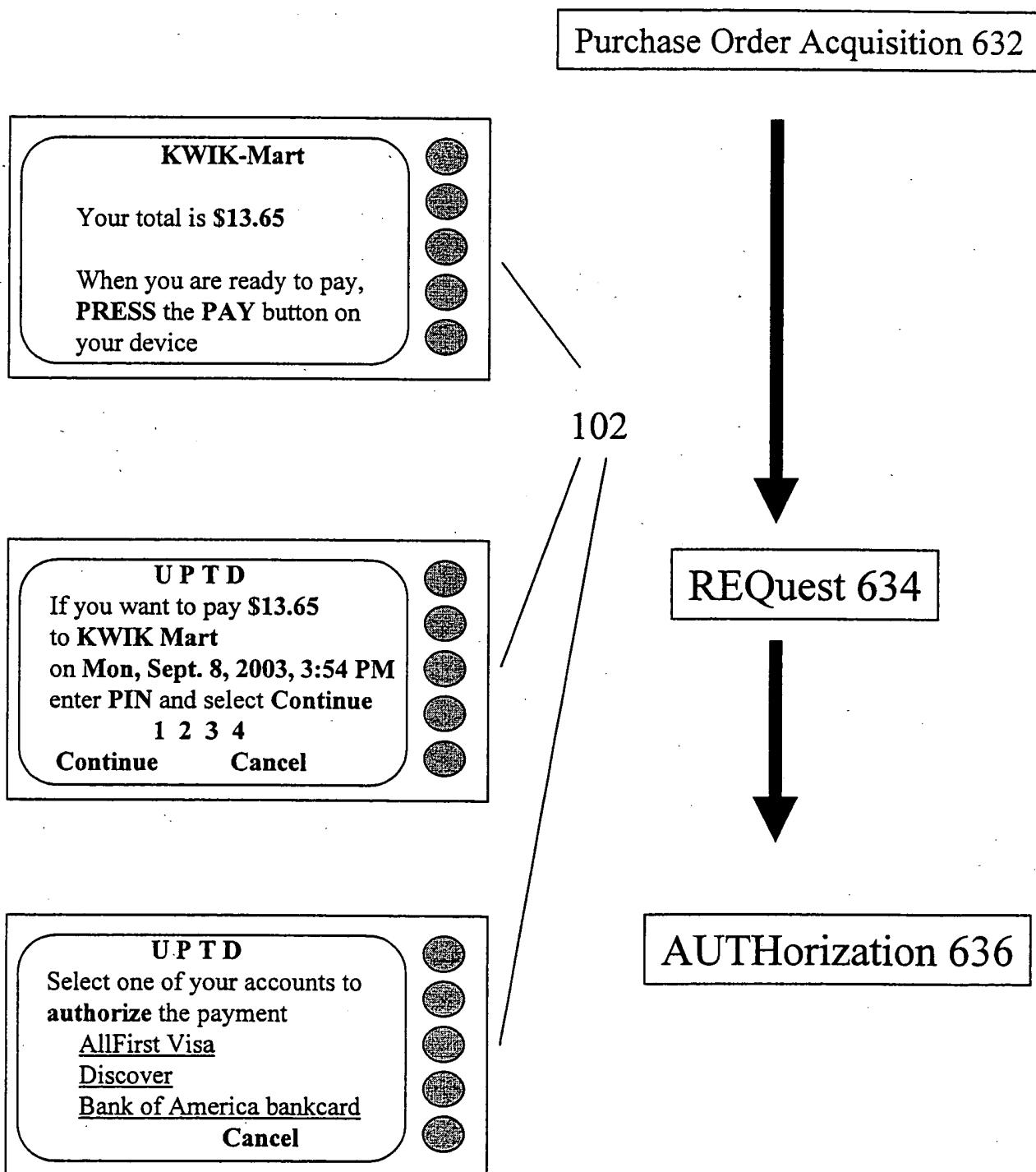


Figure 54

Service Purchase I, example 638

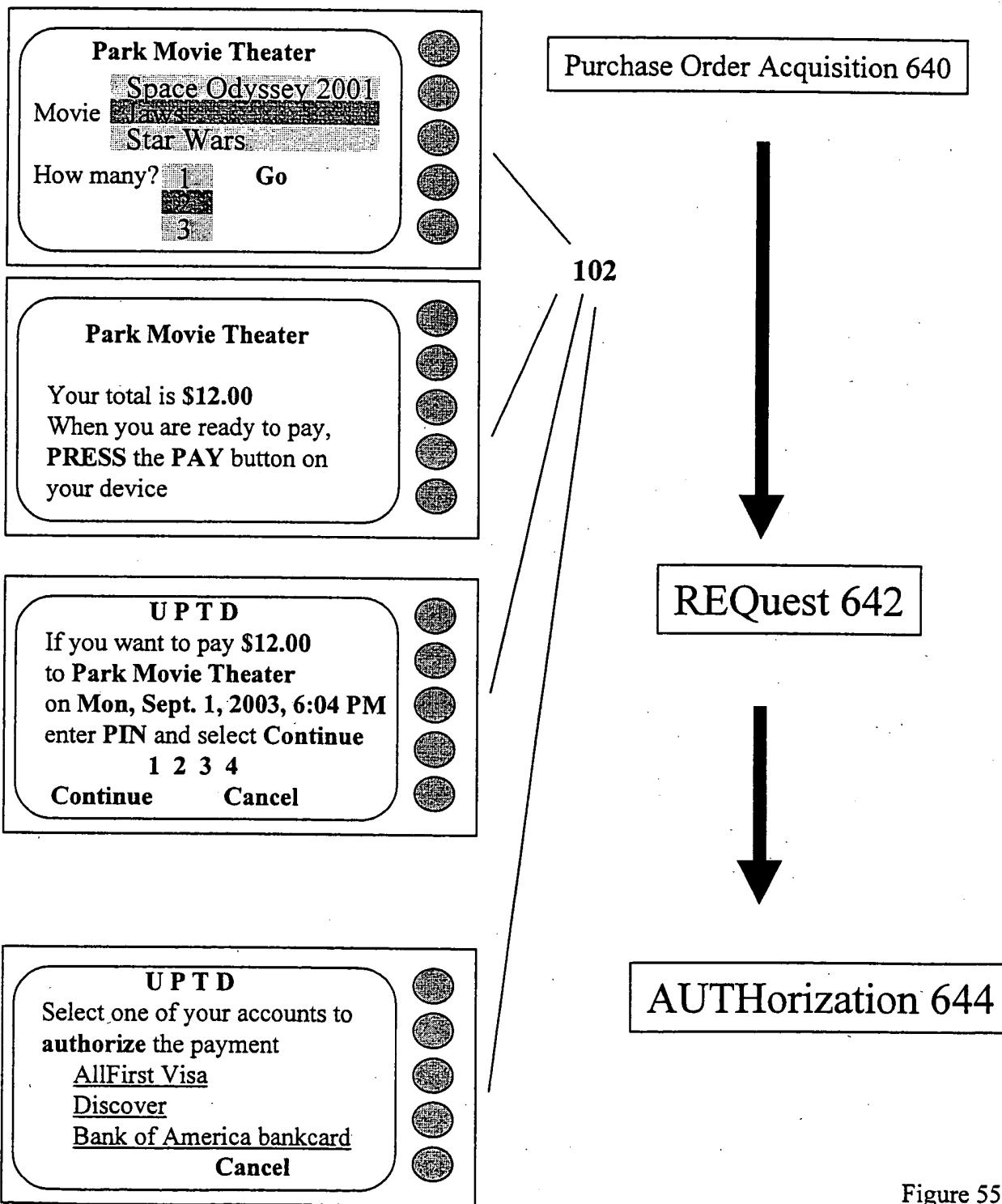


Figure 55

Service Purchase I – token verification and consumption, example 650

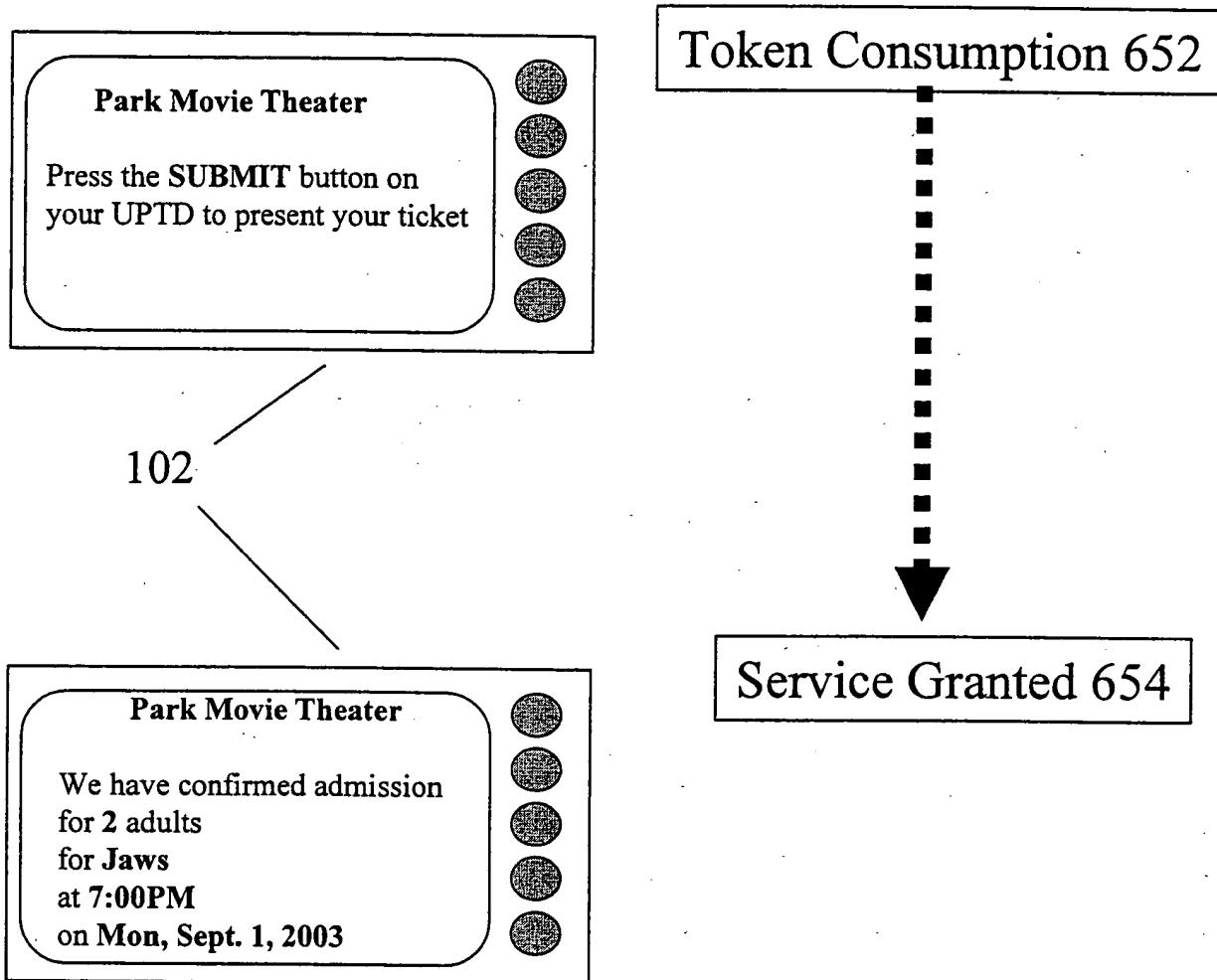


Figure 56

1100

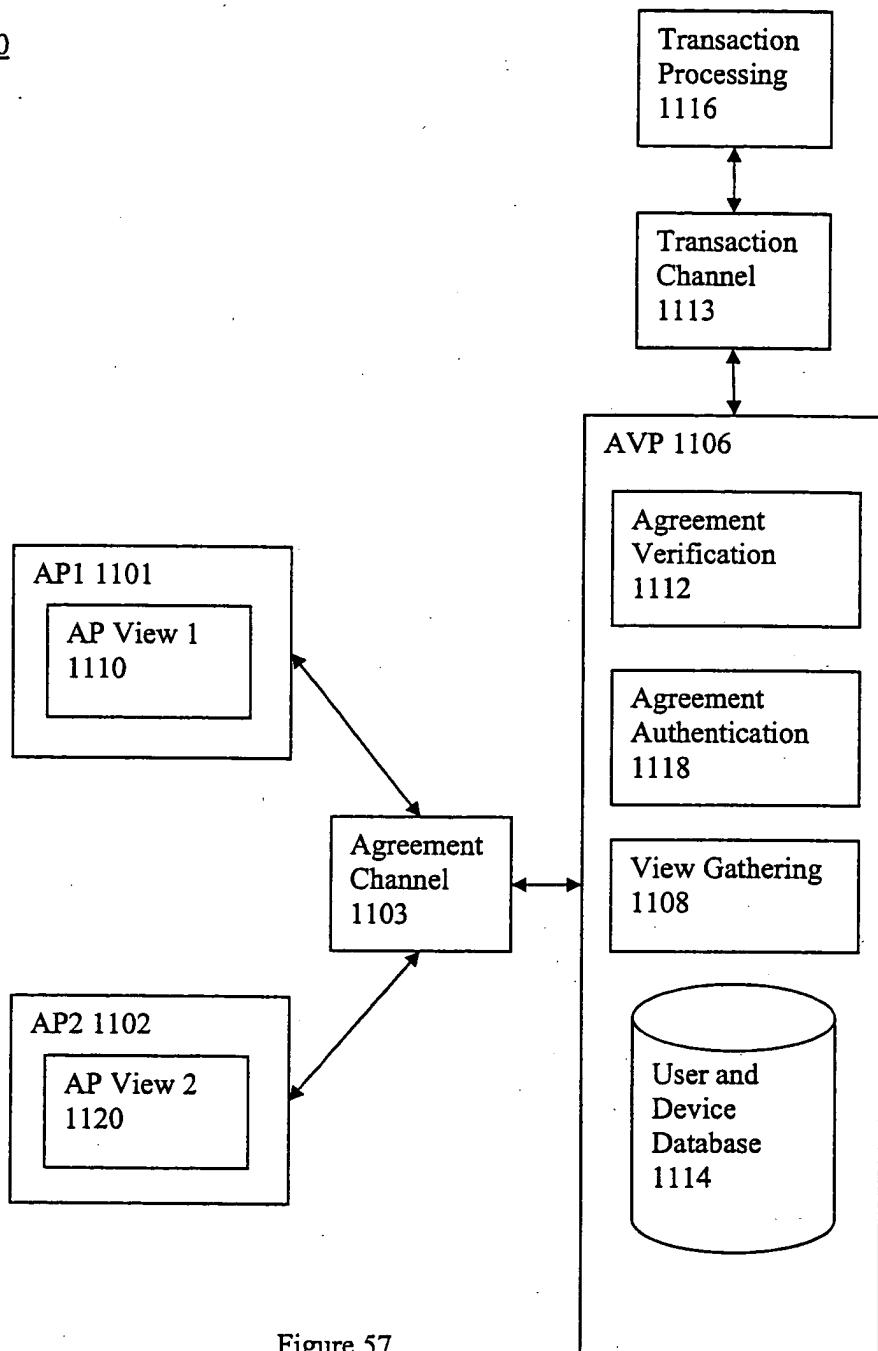


Figure 57

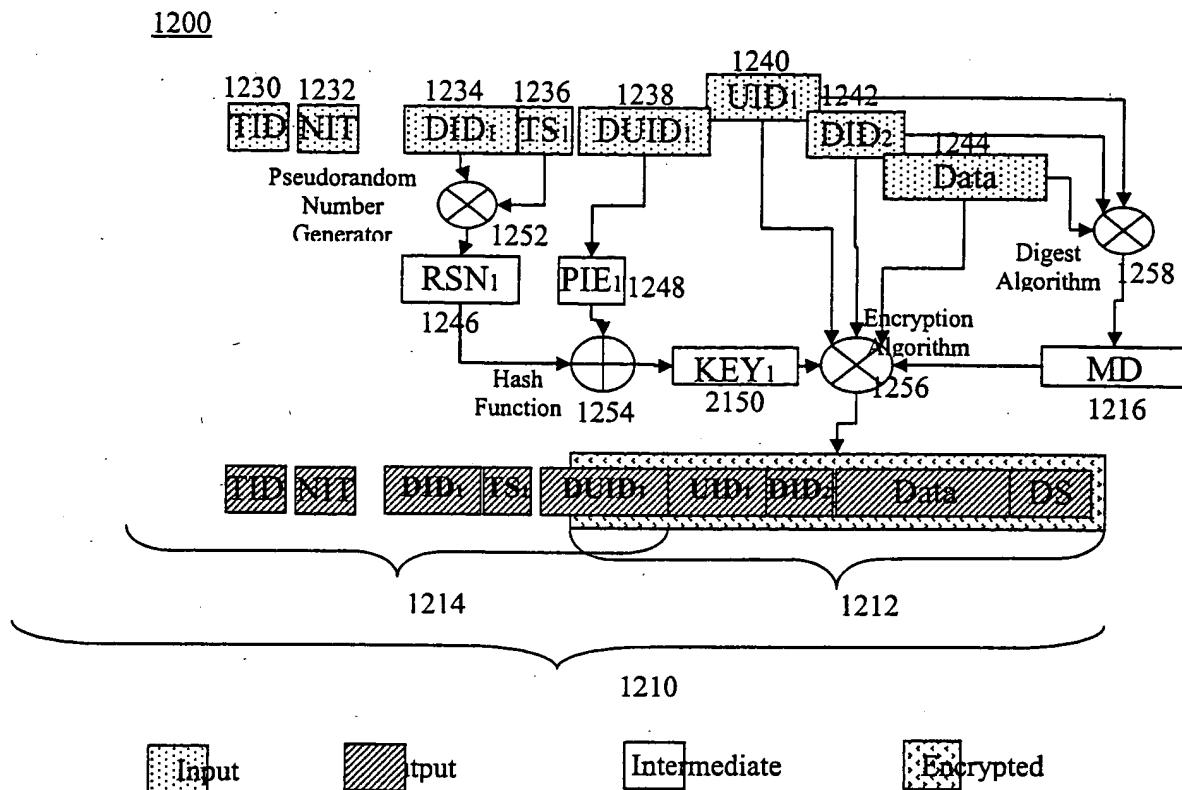


Figure 58

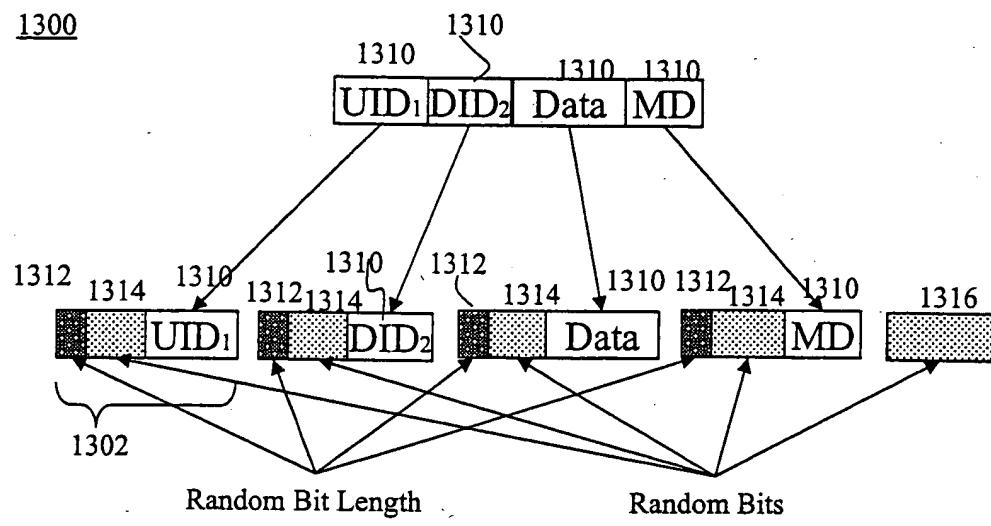


Figure 59

1400

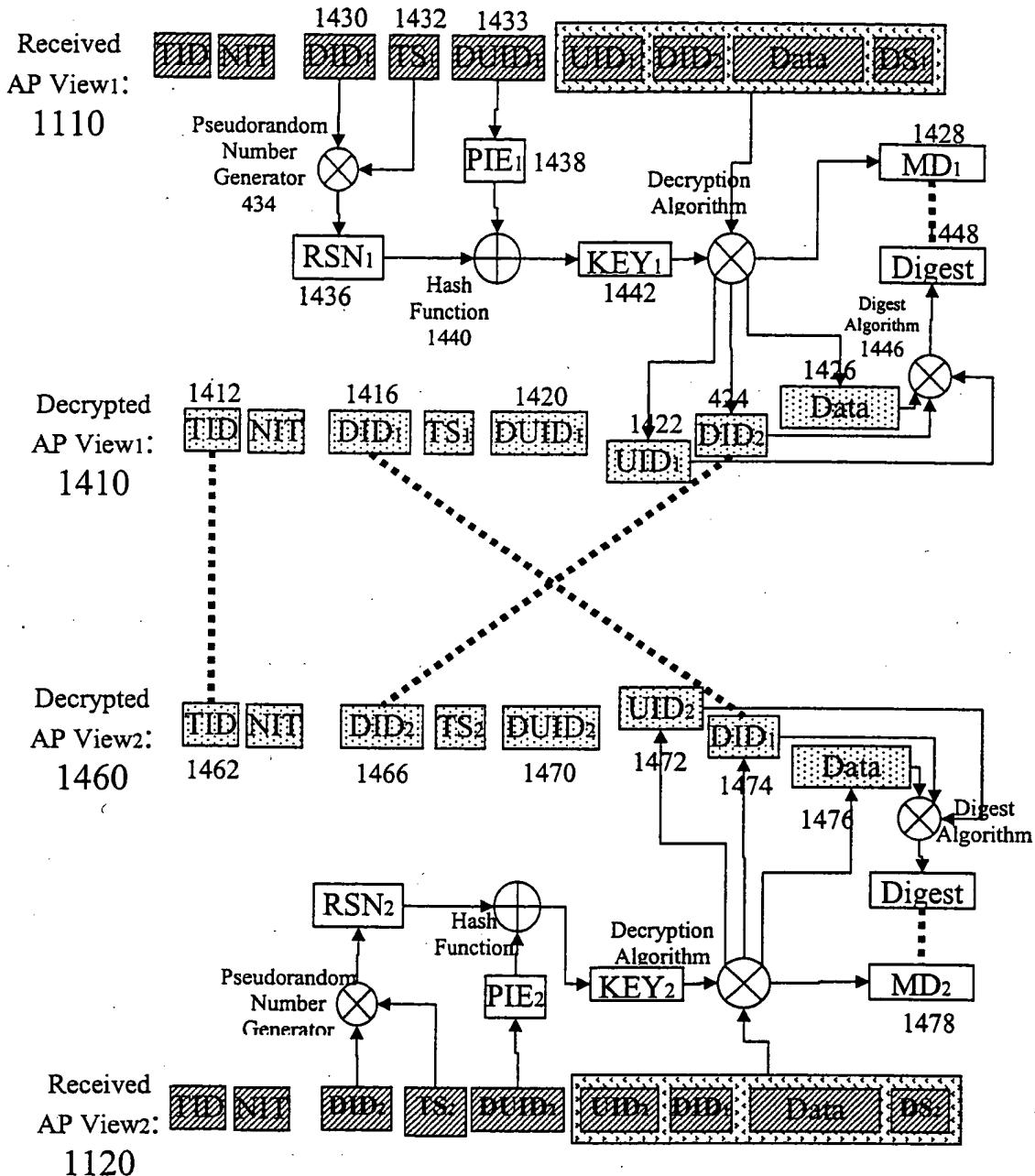


Figure 60

1500

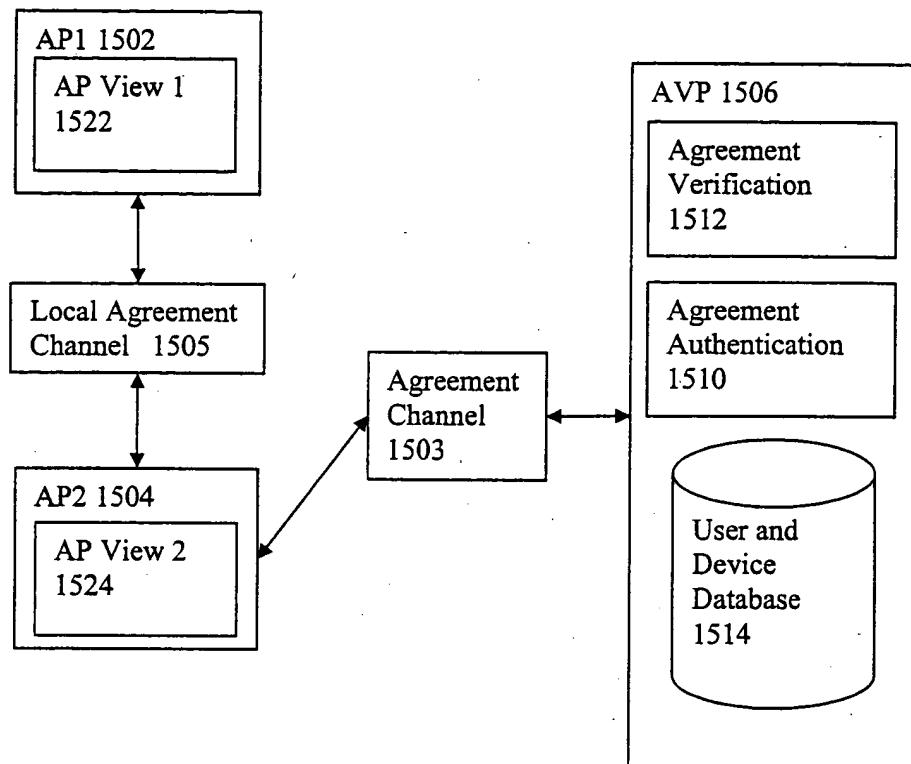


Figure 61

1600

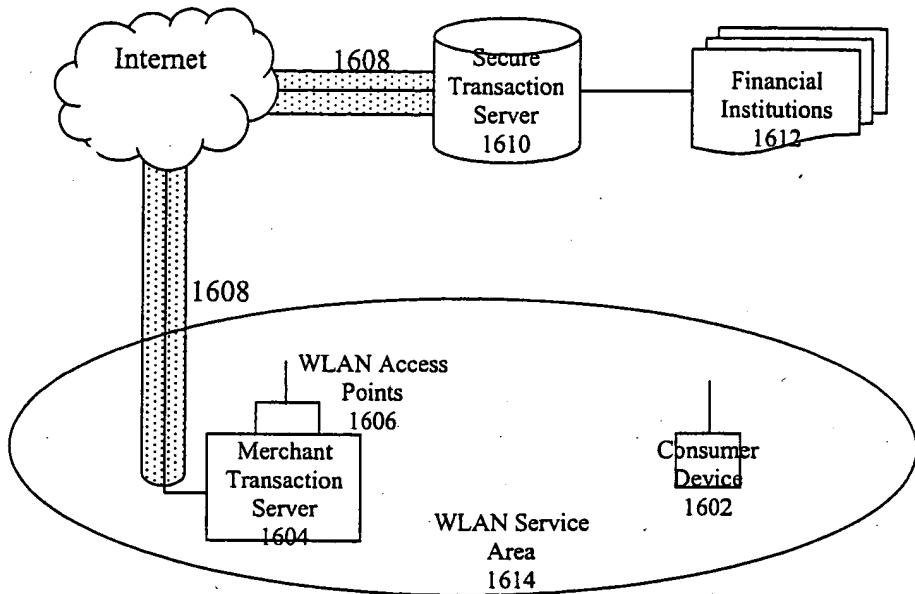


Figure 62

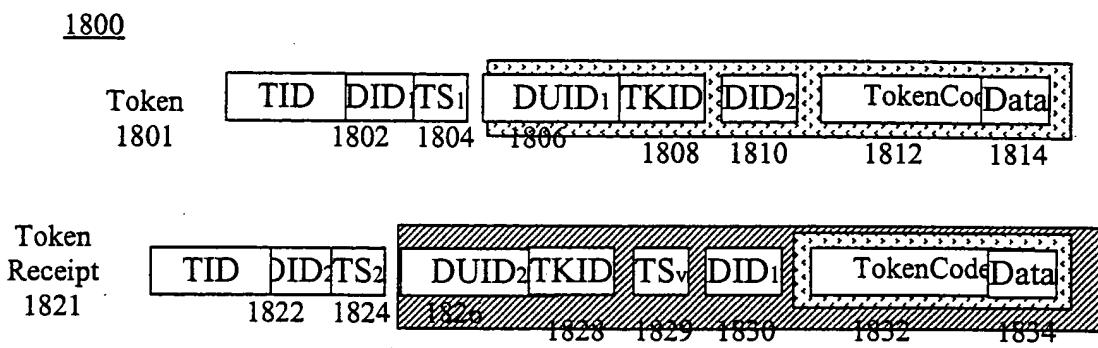


Figure 63